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CHICAGO SCHOOLS JOURNAL

An Educational Magazine for Chicago Teachers

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PUBLISHED BY THE BOARD OF EDUCATION

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Back Cover — Chicago Teachers College Students

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OBJECTIVE EVALUATION OF INTELLECTUAL SKILLS

MAX D. ENGELHART

CHICAGO PUBLIC SCHOOLS

IN discussing the art of writing objective achievement exercises for the evaluation of intellectual skills, the author plans to do four things: (1) define the phrase "intellectual skills," (2) indicate the kind of instruction necessary to justify the use of exercises measuring these skills, (3) offer suggestions for the writing of such exercises and present some examples, and (4) comment on the research needed to determine whether such exercises measure what we hypothesize they do.

Instructional objectives are often classified under the headings of (1) knowledge and understandings, (2) intellectual skills and abilities, and (3) ideals, attitudes, interests, appreciations, and the like. Under the first heading we could list knowledge or understanding of specific facts, terminology, principles, and generalizations, and include all of the kinds of behavior that are usually measured by recall or recognition exercises. Under intellectual skills we may list the ability to analyze a problem or novel situation and to apply relevant knowledge to its solution. We may include such skills as the ability to read unfamiliar material with understanding and this may range to the interpretation and evaluation of data. We may also include the ability to make discriminations and comparisons. The intellectual skills include all of the behaviors we characterize as critical thinking or reasoning.

There are, of course, no sharp boundaries between the levels of objectives mentioned above. We shall not here be concerned with the writing of essay questions nor with the evaluation of the behaviors classified as ideals, attitudes, interests, and appreciations.

TEACHING INTELLECTUAL SKILLS

Where teaching is restricted to the imparting of the content of a text, in fairness to the students, evaluation should be restricted to measurement of the information they have thus obtained. On the other hand, instruction which justifies the use of exercises measuring intellectual skills should provide for the development of such skills. In addition to the explicit recognition of these skills as objectives, instruction should give students numerous opportunities to acquire them. In class discussions and in written assignments, thought-provoking problems should frequently be presented. The instructor should be constructively critical of the thinking done by students whether in recitation or in written work. While much time must be devoted to the imparting of knowledge by an instructor and to its acquisition by students, instruction can include development of understanding of the nature of assumptions, hypotheses, and of the elements of logical reasoning. Students should be expected to use terms with precision and to support their answers with evidence. Problems and issues should be analyzed in class so that students may be trained in identifying problems or issues, in recognizing assumptions, in determining what kinds of data are needed to support or disprove hypotheses, and what methods are useful in collecting the data. From time to time instruction should include the comparing and contrasting of facts, ideas, principles, and generalizations earlier learned with those being learned so that the student is able to organize his knowledge in ways which will prove helpful in solving new problems. Finally, in anticipation of later testing designed to

evaluate the acquisition of intellectual skills, care should be taken to avoid the imparting of solutions to exercises which students are to be expected to solve through the use of intellectual skills. For example, consider the following exercise:

1. Gasoline, a mixture of hydrocarbons, burns to carbon dioxide and water. In order to maintain a dirigible, or lighter than air airship, at a constant weight, the procedure used is to condense water vapor present in the exhaust gases from the engines and allow the CO_2 to escape. However, only about 70 per cent of the water vapor need be condensed. Why?
 - A. Water is denser than gasoline.
 - B. Dirigibles filled with helium are heavier than those filled with hydrogen.
 - C. The water contains oxygen from the atmosphere.
 - D. Gasoline is about 70 per cent carbon.

In order to justify the use of this exercise in a test in elementary chemistry, the students should have received instruction relevant to the phenomena of combustion. If, however, this exercise is to constitute a problem requiring thought, the situation represented by the introductory part of the exercise should not have been described by the teacher in explaining combustion. In writing such exercises a number of precautions should be observed. The exercise writer needs to assess the content of instruction to determine whether students will have had the opportunity to acquire the necessary knowledge and understandings. If the exercises are to measure intellectual skills they should not contain technical terms unemphasized in instruction. They should not require application of principles which have not been taught. They should not deal with problems so subtly stated that the students are unable to identify the problem. They should possess an element of novelty, as in the example above, in order to stimulate thinking. The exercise also illustrates an important characteristic of exercises which promote thought. Such distractors as "water is denser than gasoline" and

"gasoline is about 70 per cent carbon" are plausible, though incorrect as answers to the problem. They are true statements, but not relevant. Often an exercise writer can produce good distractors by thinking of the kinds of answers students are likely to give when applying the wrong information or the wrong kind of thinking in seeking a solution. Another characteristic of effective multiple answer exercises is the including in the "item stem," or introductory part of the exercise, the phraseology that represents the problem of the exercise. This is preferable to beginning an exercise "Combustion is . . ." and concluding the exercise with five long answers. Such exercises usually require nothing more than memory of information for their solution. They are not even efficient in this respect since the answers are necessarily longer than those written for exercises with a more appropriate item stem.

CLASSIFICATION EXERCISES

Multiple-answer exercises in which the item stems present novel problems and whose answers are plausible are but one type of objective instrument which may be used to evaluate the acquisition of intellectual skills. There are a number of classification types of exercises which are also useful. This is especially the case where the categories stimulate the student to survey his knowledge over an extensive range of content and to make discriminations. Suppose, for example, that in a social science course, instruction has been concerned with the characteristics of liberal democracy, communism, and fascism, and that the instruction has included some discussion involving the contrasting and comparing of these ideologies. Then a series of exercises such as the following is appropriate.

Answer the following items on the basis of the *theory* rather than the practice, remembering that practice may differ from theory. After each item number on the answer sheet, blacken

one lettered space to designate that the item refers to the *theory* of

- A liberal democracy.
- B Communism.
- C Fascism.
- D both Communism and Fascism.
- E both liberal democracy and Communism.

1. There should be respect for individual personality in both the ends and means of government.
 2. Freedom and equality are meaningful only in a classless society.
 3. A temporary dictatorship may precede the establishment of a "stateless" society.
 4. The ultimate goal is freedom and equality for all in a democratic society.
 5. Society and state are superior to individuals, and individuals find their happiness in complete obedience to a totalitarian government.
 6. The right to and value of a political opposition are denied.
- Etc.

Recall of the comparisons made during instruction may enable many students to classify such items correctly. Something more than mere recall is needed, however, if the items are not in exactly the same words used by the instructor and if the student has to select the ideas that are relevant from a wide range of information. In writing such exercises a number of precautions should be observed. The categories should be related, but mutually exclusive. If, for example, the categories pertaining to liberal democracy, communism, and fascism had included socialism it would be difficult to classify such an item as "Advocates collective ownership of the means of production." Careful wording of the categories is extremely important. The word "theory" was included in the directions since it was evident to the writer of this series that the students could become confused if they thought of practices rather than theories. The items should not be long, involved, and qualified complex sentences.

There should not be too many categories. There should not be too many items to be classified. Six of a total of

eighteen items are presented. Usually no more items should be listed than can appear on the same page as the categories. Each series should have one or more items relevant to each category. The order of answers should be random. While two successive items on occasion may be marked with the same letter, only rarely should three successive items pertain to the same category.

PHRASING DIRECTIONS

The directions preceding the items just given and the examples which follow are directions for use of a machine scored answer sheet. In the case of handscoring, where the students are to write their answers on short blanks preceding the items, the directions may be modified somewhat as follows: "On the blank preceding each item, write the *one* letter which designates that the item refers to. . . ." Where an answer sheet is prepared for rapid hand scoring and in which answer sheet numbers are followed by lettered squares, for example, 123.

A	B	C	D	E
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

, the phrase "place a cross (x) in the *one* lettered square" may be substituted for the phrase "blacken the *one* lettered space." One can allow for as many as 150 exercises on such an answer sheet. The letters need not be given above each set of squares so long as they are at the top of the columns of squares. An answer sheet with holes punched in the locations of the correct answers may be used as a stencil for scoring. It may also be helpful to indicate the kind of directions which should precede series of multiple-answer exercises for machine scoring, for strip scoring, and for use with a hand scored answer sheet.

After each exercise number on the answer sheet, blacken the *one* lettered space which designates the correct answer.

On the blank preceding each exercise, write the *one* letter which designates the correct answer.

After each exercise number on the answer sheet, place a cross (X) in the *one* lettered square which designates the correct answer.

Where the multiple-answer exercises are of the best answer type, the word "best" should replace the word "correct." The word "one" is consistently included in directions to discourage the marking of more than one answer space per exercise. If preferred, the word "designates" may be replaced with "indicates" or other synonymous term. Given other minor changes of wording of the directions, "designating," "indicating," or an equivalent term may be used.

If students are unfamiliar with the use of an answer sheet, it will be desirable to begin the directions for the first series of exercises or items in the test "After the number on the answer sheet which corresponds to that of each of the following exercises (or items), blacken the *one* lettered space which designates. . . ." In later directions the phraseology may be simplified to "After each exercise (or item) number on the answer sheet . . ." or to "For each of the following exercises (or items), blacken the *one* lettered space. . . ." Use the word "exercise" in the case of multiple-answer exercises and the word "item" where items are to be classified according to the categories preceding them.

EXAMPLES OF CLASSIFICATION EXERCISES

Other examples of exercises of the classification type are presented below. Similar exercises may be written in a variety of subject fields. In each case, only a few of the items included in each series are given.

For each of the following items, blacken the *one* lettered space which designates that the term correctly completing the item is

- A zero.
- B constant, but not zero.
- C increasing at a constant rate.
- D decreasing at a constant rate.

Note: Assume no air resistance or friction.

- 7. The acceleration of a falling body is
- 8. The velocity of a falling body is
- 9. The force acting on a falling body is

- 10. The acceleration of a car traveling south at a continuous rate of 30 miles per hour is
Etc.

Each of the following sentences contains one error in grammar. For each sentence, blacken the *one* lettered space identifying the error as one of

- A lack of *agreement* between subject and verb.
- B *reference* of a pronoun.
- C *case* of a noun or pronoun.
- D undesirable *shift* in person, tense, mood (mode), or voice, or wrong sequence.
- E a *misplaced modifier*.

- 11. After we had all come in from a long swim, a game of ball was played on the beach.
- 12. Running past us, the faces of the children were full of anticipation and excitement.
- 13. Many varieties of this peculiar, little-known plant is represented in our section of the country.
- 14. The people who, as you know, we can count on are those we have helped the most during these troubled days.
Etc.

A central problem in Joseph Conrad's novel *Almayer's Folly* concerns the relationships between native Asiatics and the trading or colonizing Europeans. For each of the following statements, blacken the *one* lettered space which indicates that the person who would be most likely to endorse the statement is

- A Almayer
- B Mrs. Almayer
- C Nina
- D Dain
- E The author of the book

- 15. The religious precepts of Europeans in the Far East are merely a hypocritical cloak for a cruel racial exclusiveness.
- 16. The array of superior force by the Europeans justifies the use of cunning, deception, and betrayal by Asiatics to defeat them.
- 17. Even though the individual European may go down in the struggle, his defeat is due to bad luck or betrayal, not to cultural or moral inferiority.
Etc.

For each of the following items, blacken *one* lettered space to designate that the item refers to the

- A Federalist party.
- B Democratic-Republican party of Thomas Jefferson's time.
- C Democratic party of Andrew Jackson's time.
- D Whigs.
- E present Republican party.

18. A mixture of factions favoring the Bank of the United States, state rights, internal improvements, and opposed to easy naturalization of immigrants. United only in their opposition to the party in power.
19. The party of "the rich, the well-born, and the able." Advocates of a strong central government and liberal interpretation of the Constitution.
20. Advocates of strict construction of the Constitution, but willing to make an exception if justified by the situation. More interested in the development of an agricultural than an industrial economy.
Etc.

For each of the following paired items, blacken the *one* lettered space which designates that the *first* item is

- A greater than the second.
- B less than the second.
- C equal, or approximately equal, to the second

Note: The magnitude of one of the two items compared may be zero.

21. Amount of water absorbed in the duodenum.
Amount of water absorbed in the colon.
22. Amount of chemical digestive action in the stomach.
Amount of chemical digestive action in the small intestine.
23. The importance of respiration to animals.
The importance of respiration to plants.
24. Amount of acid in the pancreatic juices.
Amount of acid in the gastric juices.
25. Amount of starch digestion in the small intestine.
Amount of starch digestion in the stomach.
Etc.

Biology items of the kind illustrated in the last series presented are very useful in this field, and in other fields, in evaluating student understanding of quantitative relationships. For such series of items, as for other classification type exercises, the

students are required to make many comparisons, and, if such comparisons have not been made too explicit in recent instruction, it may at least be hypothesized that the student has to engage in discriminative thinking. Another very useful set of categories has to do with cause and effect relationships. For example:

For each of the following paired items, blacken the *one* lettered space which designates that

- A the two things referred to tend to increase together, or to decrease together.
- B one of the two things tends to increase when the other tends to decrease.
- C neither of the above relationships exists.
(Assume that other factors remain the same.)

26. Rapidity of motion of the molecules of a gas.
The temperature of the gas.
27. The potential energy of a body while falling.
The kinetic energy of the same body while falling.
Etc.

In writing such items where a cause and effect relationship is involved, the cause should be listed first. These categories are useful in a variety of fields.

EXERCISES ON QUOTED MATERIAL

Increasing use is being made in achievement examinations of series of exercises pertaining to quoted material. Such exercises afford many opportunities for the evaluation of intellectual skills. While the quoted material should have relevance to instruction, it can be the means of supplying additional information needed in the thinking required by the exercises. Often the use of quoted material makes possible the presentation of problems or issues similar to but not identical with problems or issues considered during instruction. Sometimes the quoted material may present new points of view on some issue or summarize an experiment similar to experiments discussed in class.

Certain things need to be considered in selecting quoted material. In addition to relevance to instruction and elements of novelty, the quoted materials should not be of unreasonable length. It should say much in little space. In some cases it is necessary to adapt rather than quote literally. For example, a description of an experiment may be needlessly technical. In describing an experiment performed on dogs, why say that the dogs in one group were adrenalectomized when it is sufficient to say that the adrenal glands were removed. Frequently, modification of the quoted material may be guided by the exercises written. If certain sentences do not contribute to the solution of any exercises, they can be omitted without loss. Sometimes an item can be keyed more readily if a word or phrase is modified in the selection.

The following selection, used in a social science examination, required such modification:

Even if they were less pronounced, the defects of capitalistic society should be frankly considered and confronted, for these defects serve to divert the attention of honest idealists from the far greater danger to the individual that lurks behind the idea of a Welfare State. Reliance on State planning leads the individual Socialist to be the unwitting, and often unwilling, tool of the more subtle Communists. There would have been less of this unintentional preparatory work for Communism if certain short-sighted systems of capitalism had not been so narrowly self-righteous.

The greatest danger to the Republic lies in the increasing tendency to abandon the American in favor of the socialist philosophy. The fundamental lesson of revolutions needs to be learned again. It is that a concentration of political power which aims to liberate men from oppression almost invariably ends in oppression as great or greater than that which is removed. Our own Revolution is the exception that proves this rule.

— adapted from *The Power in the People*
by Felix Morley.

Instead of “acquisitive society,” we substituted “capitalistic society.” Instead of “the architectural drawing of a benevolent welfare state” we simplified to the “idea of

a Welfare State.” Instead of the saying that there is an “increasing tendency to abandon the American in favor of the European political philosophy” which is very vague, to say the least, we substituted “in favor of the socialist philosophy.” Note the kind of discriminative thinking required in answering the following exercises taken from the series of exercises pertaining to the above selection:

28. Which of the following characteristics of the Welfare State would the author probably regard as *most* similar to communism?
 - A. Highly centralized governmental control of economic activities.
 - B. The persons administering the Welfare State are socialists.
 - C. Governmental planning is done in a subtle way by communists.
 - D. The state is regarded as superior to the individual.
 - E. Political opposition is eliminated.
29. Which of the following is the most fundamental problem dealt with by the paragraphs?
 - A. How to prevent a Welfare State from becoming communist.
 - B. How to reduce the necessity for governmental planning.
 - C. How to alert honest idealists to the defects of capitalism.
 - D. How to secure individual welfare without loss of individual freedom.
 - E. How to liberate men everywhere from oppression.

It is often effective in a social science examination to quote paragraphs presenting both sides of some issue. Suppose that two paragraphs have been labeled “Argument I” and “Argument II” and that the students are to classify items according to the following categories:

For each of the following items, blacken *one* lettered space to show that the item is true of

- A Argument I.
- B Argument II.
- C both arguments.
- D neither argument.

30. The basic proposition of the argument is supported by relevant and dependable evidence.

31. The argument begins with the statement of an assumption.
 32. The typical "isolationist" would agree with this argument.
 33. American foreign policy is in harmony with the basic proposition of this argument.
- Etc.

INTERPRETATION OF DATA EXERCISES

The following categories are extremely useful in the natural and social science fields where the quoted material presents data in graphic or tabular form or in the context of one or more paragraphs.

Making your judgments only in terms of the data summarized above, classify each of the following items by blackening space

- A if the item is definitely true.
- B if the item is probably true.
- C if the data given are not sufficient to indicate any degree of truth or falsity of the item.
- D if the item is probably false.
- E if the item is definitely false.

Where categories employ the phraseology "definitely true," "probably true," etcetera, students should have some prior instruction in using such categories in judging items which pertain to data. Probably-true statements are justifiable interpolations, extrapolations, or predictions from the information or data given. They may represent legitimate generalizations from information describing a sample or deductions with respect to a sample where the information pertains to things in general. For example, if the selection pertains to industrial conditions characteristic of the war years, a statement to be marked "B" may describe a trend or condition in a single industry analogous to the general trend or condition, although the particular industry is not mentioned in the selection. Similarly a statement to be marked "D" may describe a trend for a particular industry opposite to that of the general trend described in the selection. Value judgments are among the items to be classified

C, insufficient evidence. For effective production and use of exercises of this type, exercise writers, teachers, and students need to know and understand the points just made.

Evaluation of student ability to interpret data can also be accomplished by means of multiple-answer exercises pertaining to quoted material. Such exercises may ask the student to identify assumptions, hypotheses, inadequacies of the data reported or of the methods used in obtaining them, justified or unjustified inferences or conclusions, and, in the social science field, consequences of adopting a policy or course of action in harmony with the data reported.

ANALYSIS AND IMPROVEMENT OF EXERCISES

Before concluding this discussion of the writing of exercises relevant to quoted material it should be mentioned again that the quoted material should be compact. It should be relevant to instruction, but new to the students. Needless technical phraseology should be simplified and sentences deleted which do not have exercises pertaining to them, unless such sentences are needed for continuity in the quoted material. Series of exercises, whether pertaining to quoted material or not, should be submitted to other teachers of the same subject for keying. Where disagreement exists with respect to the key, items or exercises should be eliminated or modified. After the test has been given, item analysis is a means of obtaining data useful in the improvement of exercises.¹ Where item analysis shows that a given exercise or item is not of appropriate difficulty or discriminating power, a tally of the number of students giving each answer may disclose why the exercise or item is inadequate. It may be found, for example, that a majority of the students are responding with the same wrong answer, or that certain incorrect answers to a multiple-answer exercise are so much deadwood since

¹See "How Teachers Can Improve Their Tests," by Max D. Engelhart. *Chicago Schools Journal*, 25:16-24, September-December, 1943.

none or very few of even the less able students mark these answers as correct.

When the following exercise was first used, although it was the most significant exercise in the series in which it appeared from the standpoint of content, only 43 per cent of the students responded correctly and the exercise had no power in discriminating between good and poor students.

34. The paragraphs quoted above discuss a condition which is most relevant to which of the following basic problems of government?

- A. Which is better, a parliamentary or presidential form of government?
- B. Which is better, a democratic or a totalitarian government?
- C. Which is better, government by the elite or government reflecting the will of the masses?
- D. Which is better, a government based on direct or indirect democracy?

As a result of the item analysis, the term "the elite" in answer C was changed to "experts." When thus modified, 74 per cent of the students responded correctly and the item test correlation indicated that the exercise had acquired satisfactory discriminating power.

CONCLUSION

A variety of types of objective exercises have been described and illustrated and a

number of suggestions have been made concerning the art of writing such exercises. An effort has been made also to indicate and emphasize relationships between instruction and evaluation. The question may be raised as to how we know that such exercises measure more than recall of information. It is evident from study of the exercises that knowledge is an important factor in their solution. It seems to the author that it is also legitimate to infer from study of the exercises that a variety of intellectual skills are also required, assuming that instruction has been of the character discussed. We do need, however, more research of the type exemplified by Bloom and Broder in *Problem-Solving Processes of College Students*² and factor analyses in which some of the tests are achievement tests containing exercises of the types discussed and the balance of the tests are tests of well established primary mental abilities. Even though a given series of achievement exercises may be shown to involve a number of primary abilities, it would be satisfying to discover that in addition to the verbal and memory factors, the given series is also saturated with reasoning.

²Benjamin S. Bloom and Lois J. Broder. "Problem Solving Processes of College Students," *Supplementary Educational Monograph* Number 73. Chicago: University of Chicago Press, 1950. 109 pp.

The construction of items, which will measure and encourage socially valid, highly functional, generalized, and permanent learning and which will stimulate achievement to capacity, is greatly needed in every field of achievement. To build such items requires rare insight into the meaning of education and the function of each subject area in modifying human behavior in desirable directions. When such tests are available teachers and students alike will work toward the clarified goals with greater efficiency.—Walter W. Cook in "Encyclopedia of Educational Research." 1950. Courtesy of the Macmillan Company.



SERVICES OF THE ILLINOIS STATE MUSEUM¹

MILTON D. THOMPSON

ASSISTANT DIRECTOR

PROBABLY no city in the world is better serviced by museums than is Chicago with its outstanding museums of art, history, natural history, industry, and anthropology. Each of its great museums offers sufficient service over and above its exhibits so that the school people of Chicago should be eminently conscious of the fact that a modern museum is no longer a repository for collections but in reality a service institution and an audio-visual aid of outstanding merit.

The Illinois State Museum attempts to interpret Illinois to its people in terms not only of what is here in Illinois but

also in terms of its heritage. Located in the Centennial Building, adjacent to the Capitol, it is visited by well over 300,000 people annually. The heaviest period of attendance is in April and May when school classes from all over Illinois and the surrounding states come to Springfield to see the Lincoln Shrines, the State Capitol, and the Illinois State Museum; in a single day this spring 2,808 students from 47 different communities were registered. The Museum is open from 8:30 a.m. to 5:00 p.m., Mondays through Saturdays, and from 2:00 to 5:00 p.m. on Sundays and holidays; it is closed but

¹Photographs Courtesy of Illinois State Museum

four days a year: Thanksgiving, Christmas, New Year's Day, and the Fourth of July.

Although the Museum is not a tremendous institution like some of those in Chicago, it takes an average class an hour to an hour and a half to visit it. They will find that it attempts to interpret Illinois in terms of a wide variety of subjects. In keeping with our continuing research on prehistoric man in Illinois, large sections are given over to interpreting the place of the Indian in the history of the state. Each year a field party explores some area of Illinois under the supervision of our curator of anthropology; in recent years these work crews have been augmented by a few selected juniors and seniors from Illinois high schools who have expressed an interest in the study of anthropology and who have been recommended by their science teachers. The most extensive part of our display is given over to the natural history of Illinois, particularly the animals and birds of the state; also displayed are seven large habitat groups and several smaller ones on the animals of Illinois, past and present. Our Preparation Department is working constantly to augment this department, for through these groups one is able to get a glimpse of different aspects of Illinois natural history.

Something of the history of man and his rise through important discoveries and

certain key incidents in the history of Illinois are depicted in two series of dioramas which are of as fine a quality as will be found anywhere in the country. Additional information concerning these series may be obtained from two twenty-five cent illustrated pamphlets which the museum has published: *Man's Venture in Culture* and *The Story of Illinois*.



The Museumobile

The Museum beginnings are traced to the early Geological Surveys of Illinois, and as a result it has an outstanding collection of the rocks, minerals, and fossils which are found in our state and which have been so very important in our economic development. A considerable collection of contemporary art shows the development, interest, and skill of the artists of this upper Mississippi Valley area.

A SERVICE ORGANIZATION

Primarily a service organization, the Museum attempts to serve the entire state of Illinois; this service is contributed through a variety of means. The School Loan Service reaches as many as 35,000 students a month throughout the school year and is available to any educational organization throughout the state. A catalog of material may be obtained upon request.

The publication service of the Illinois State Museum is quite extensive. It in-



The Centennial Building

cludes the free distribution of the monthly bulletin, *The Living Museum*, which is available on request, and which is also available in Braille, and the eight illustrated booklets of the *Story of Illinois Series* available at twenty-five cents each. They are:

Story of Illinois, Indian and Pioneer, by Virginia S. Eifert

Illinois Mammals, Today and Yesterday, by Virginia S. Eifert

Exploring for Mushrooms, by Virginia S. Eifert

Flowers that Bloom in the Spring, by Virginia S. Eifert

Invitation to Birds, by Virginia S. Eifert

Man's Venture in Culture, by Thorne Deuel

The Past Speaks to You, by Ann Livesay

Common Illinois Insects, by A. Gilbert Wright

A series of non-technical natural history booklets include:

Leaves and Stems from Fossil Forests, by Raymond E. Janssen. \$1.75.

Birds in Your Back Yard, by Virginia S. Eifert, \$1.00.

Illinois Wildflowers, by John Voss and Virginia S. Eifert, \$2.25.

There is also a series of technical publications applicable to Illinois. A list of the publications of the Illinois State Museum may be had free upon request.

The most unique and successful extension service is the Museumobile, a travelling museum which visits schools, communities, and institutions of the state on an advance schedule and which has proved to be most successful in interpreting the Museum and the natural history of Illinois to those school children who visit it. It is a case of moving the mountain to Mohammed. The Museum actually comes to the school. In four years time we

have been able to visit the schools in every community in the state. The Museumobile has been wonderfully received, and it is interesting to note that as soon as it went on the road the attendance in the Illinois State Museum doubled and has remained high ever since. While over 300,000 people visit the Museum in Springfield each year, more than 800,000 people in the state of Illinois receive service in some one of these ways.

For schools planning to visit Springfield and the State Museum there are, of course, many other significant attractions. The Lincoln Shrines include the Lincoln Home, the Lincoln Tomb, the old Capitol Building, and the State Historical Library and the Lincoln Room on the third floor of the Centennial Building. The State Capital with its State House, the Governor's Mansion, the Supreme Court, the State Library, and the Department of Public Instruction all seem to fit into school visits to Springfield. Twenty miles to the northwest of Springfield is historic New Salem, one of Illinois' outstanding shrines and state parks. Here Lincoln spent seven important years of his life, coming as a rail splitter and leaving as a lawyer and legislator. With this tremendous amount of material to see in Springfield, we realize that it is very difficult for those coming from as far as Chicago to make the trip in a single day. Many of the classes have found it to their advantage to come by train or bus and spend a night in Springfield. Both the St. Nicholas and Leland Hotels have made dormitory rooms available for such groups, and schools have found that the added time in the area makes the trip most worthwhile.

Make the American people aware of their heritage. They can not do it without the help of many people working toward the same end in their own communities. Somewhere in your county there is a site or building that is a part of your past and thus a part of the whole American past. You can help to preserve it for your children and your children's children. — U. S. Grant, 3rd, President of the National Council for Historic Sites and Buildings.

TEACHING SPANISH

An Experiment at the Elementary School Level

KATHERINE JANSSON

BLAINE SCHOOL

FOR some time I had been interested in the ease with which young children entering the elementary school from foreign countries learned to speak English. Their facility in the language at the end of a semester, especially in the case of the youngest children, was sometimes phenomenal. Having recently begun the study of Spanish, I could appreciate and appraise in a new way the problems facing these children who were coping with a new method of communication and through it another culture.

A general awareness of our nation's need for an expanded language program was being reflected in the press. In informal discussions with my principal we talked of such experiments as Mr. Rivera's classes in El Paso, and the feasibility of organizing language classes in the elementary school in Chicago.

When, on the first day of the new semester, we received an official notification to proceed with a foreign language course on an experimental basis, we reviewed various plans we had made for organizing a class and decided that the one best suited to our particular school was that of offering twenty minutes daily to a picked group from the fourth, fifth, and sixth grades—those on the honor roll. We planned for a small experimental group of about fifteen, believing that we might have to do some spade-work in stimulating interest in a language project.

A letter was sent to the parents of some fifty children. At the beginning of the following school session we received thirty-six "consents" and closed the class to further enrollment. We could not come to any satisfactory conclusion as to how to eliminate twenty-one enthusiastic children

in a manner that was pedagogically sound and that would be fair and acceptable to them and their parents, so we decided to have two classes meeting for half an hour, twice a week. The problem of selectivity was a very difficult one; we felt that even in this limited experiment we were undemocratic, and that the basis of selection was quite arbitrary. After reading Andersson's¹ book I concur in his plea for equal educational opportunity to begin a language, and to permit continuance as long as there is a desire and demonstrable educational benefit. Let the selectivity come in later years when the less gifted may wish to continue language as a broadening of their cultural knowledge of a people, while the more gifted add a developing mastery of another language.

We have also formed a Spanish club that meets at noon for twenty minutes, one day a week. It serves a dual purpose: we speak some English to permit an exchange of experiences with Spanish and things Spanish, and we play records, sing, see films and slides, and do things which sometimes entail hearing more English than is permitted in class.

After the children had attended one class period an informal discussion was held to ascertain, if possible, why they thought they wanted to learn to speak Spanish. It was a surprise discussion and their replies were noted down in their order of discussion:

1. I want to travel and I think Spanish will help me and make traveling more interesting. (several girls)
2. It will help me when I go to work to know another language besides English. (several girls and boys)

¹*The Teaching of Foreign Language in the Elementary School.* By Theodore Andersson. D. C. Heath and Company, 1953.

3. It will make my high school work easier because I want to take Spanish in high school. (a girl)
4. We will know some Spanish when we get to high school, so we'll be able to learn more than we would if we had to start learning it then. (a boy)
5. I think we're going to learn a lot about the customs in countries where they speak Spanish. From our one class I think people who speak Spanish must be extra polite. (a girl)
6. My mother told me that it's much easier to learn another language when you're young, so I'm glad I have a chance to do it while it's easy for me. (a girl)

This discussion, talks with parents not only of those children enrolled in the class but of others also, and the many offers of help both from teachers and parents convinced us that the experiment was meeting some of the general principles Andersson outlines in his chapter, "How Do You Start?": people were persuaded as to the usefulness of the experiment; we had the wholehearted support of the community; we endeavored to improve the quality of teaching; and we recognized that continuity of instruction was of prime importance.

At this point it might be well to say that the language chosen for the experiment was determined solely on the basis of there being a teacher in the situation with a knowledge of Spanish. We recognize, however, that as the language program is implemented in the system, consideration will be given to the various cultural backgrounds of the community. In the case of our particular school, we have a heterogeneous American population with large percentages having German, Scandinavian, and English backgrounds. We felt that the Spanish language was justified because in Andersson's words "every foreign language program contributes to our total international articulateness and to our peace-building potential."

We started with children in the fourth, fifth, and sixth grades as a convenient

compromise position; we realized that language instruction can be easily integrated with social studies at this level. We also believed that the impact of the program would be felt more immediately than if we began at the kindergarten or first grade level. The oldest children will enter high school in two years and it is our hope that by that time there will be some recognition of this elementary beginning so that they may be placed at the level of their ability.

Certainly, however, the psychological and physiological evidence that the children of the earlier elementary grades have a high language-learning potential must be fully recognized as the city-wide language program is instituted.

PRINCIPLES AND METHODS

In planning each day's work certain principles were applied so that the learning of Spanish would be a natural, meaningful experience.

1. In order to create a "climate of sound," Spanish only was used in the class with the children; a tape recorder was used so that they might hear authentic Latin voices; certain radio programs were recommended; and if any movies or TV programs with Mexican or southwest backgrounds were shown, attendance was urged so they could begin to hear, even though meagerly, Spanish used in meaningful situations. Frequently stories were told using a picture and a controlled vocabulary with the addition of a few words which were unfamiliar but which could be understood from the context or accompanying gestures. At first the children explained, usually very accurately, what they meant in English; later questions were asked about the story and answered in Spanish.
2. Visual impressions were recognized as being fully as important as aural impressions. We discussed what we saw in movies, TV programs, slides, Kodachrome transparencies, and illustrated books either in Spanish or English. Comparisons could be made as to styles of clothing, housing, family customs, religious observances, holiday celebrations, ways of earning a living, and geographical impressions. The importance of the Spanish speaker's whole behavior as stressed in *The*

Teaching of Foreign Languages in the Elementary School was borne in mind.

3. As much of the new language as possible was translated into action. We dramatized salutations, introductions, people coming into and going out of a home; celebrated birthdays; held dramatic conversations with our families, our pets, and our ages as topics; became familiar with the objects in the classroom and counted everything; played a few games; learned a few songs. Since the children are in the middle grades, after the oral-aural patterns were established the process of becoming literate in Spanish was begun. We kept Spanish notebooks; illustrated books of stories; and read a short primer constructed from an English pre-

1. *Voy a pasar lista a la clase.*
2. *Respondan ustedes a la lista.*

(For example: these phrases are going into the vocabulary of active use now as the children assume the teacher's place to call the roll.)

3. *Vamos a juramentar a la bandera.*
4. *Vamos a cantar "América."*
5. *Pónganse de pie, por favor.*
6. *Favor de hablar en voz alta.*
7. *Pasen ustedes a la pizarra.*
8. *Corríjala usted.*
9. *¿Comprenden ustedes?*
10. *Abran ustedes el cuaderno.*
11. *Cierren ustedes el cuaderno.*
12. *Repitan ustedes* $\left\{ \begin{array}{l} \text{la frase.} \\ \text{la palabra.} \end{array} \right.$
13. *Otra vez.*
14. *¿A quién le toca?*
15. *Le toca a usted, Marta.*
16. *Distribuya usted estas hojas.*
17. *¿Qué significa "casa"?*
18. *¿Qué dije yo?*
19. *¿Hay preguntas?*
20. *Pronuncie usted con cuidado.*
21. *Muy bien pronunciado.*
22. *Muy bien hecho.*
23. *Se escribe con letra mayúscula. (minúscula)*
24. *Trate de decirlo otra vez.*
25. *Escuche usted; escuchen ustedes.*
26. *Respondan ustedes en español, por favor.*
27. *Se levanta la sesión.*
28. *Es la hora de salir de la clase.*

Following is the pupils' active vocabulary — that is the vocabulary that is used fairly spontaneously by the majority of the

primer with a Spanish text pasted over the English.

In reviewing the notes on the content of the course it was realized that the children have two vocabularies — one is comprised of Spanish phrases that they comprehend but are not using; the other one is a vocabulary in active use. The comprehension vocabulary gradually becomes part of their speech as they play the teacher and have need for these phrases.

The comprehension vocabulary with its English translation consists of such expressions as:

I'm going to call the roll.
Answer the roll call.

We are going to say the pledge to the flag.
We are going to sing "America."

Please stand up.
Please speak in a loud voice.
Pass to the board.

Correct it.
Do you understand?
Open your notebook.
Close your notebook.

Repeat $\left\{ \begin{array}{l} \text{the phrase.} \\ \text{the word.} \end{array} \right.$

Again.
Whose turn is it?
It's your turn, Martha.
Pass these papers.
What does "casa" mean?
What did I say?

Are there any questions?
Pronounce carefully.
Very well pronounced.
Very well done.

It is written with a capital (small) letter.
Try to say it again.
Listen; listen (plural).

Answer in Spanish, please.
Class is over.
It's time to leave class.

children. The method employed in presenting the words is indicated in the right-hand column.

What Was Learned	Translation	How It Was Learned
1. The salutations		
<i>Buenos días</i>	Good morning	These were presented by the teacher entering and re-entering the classroom saying, " <i>Buenas tardes</i> ,"—the class met in the afternoon—until several children realized she must mean "hello" or "good afternoon." With the help of a toy clock they learned the appropriate times for the three salutations.
<i>Buenas tardes</i>	Good afternoon	
<i>Buenas noches</i>	Good night	
2. Their Spanish names		Each child was addressed by his Spanish name; in this way eighteen names were learned in each class. Several others were learned from stories about children.
3. Identification by name		
<i>¿Cómo se llama usted?</i>	What is your name?	The teacher asked the question then answered the question with her own name. Each child was asked his name and answered using his Spanish name. Later the children turned to their neighbors and asked the question. Still later they answered the question with third person answers. Conversations were held with the names of the family and friends used as the topic of conversation.
<i>Me llamo.....</i>	My name is.....	
<i>¿Cómo se llama su madre?</i>	What is your mother's name?	
(This phrase was also used with <i>padre, hijo, hija, hermano, hermana, amigo, amiga.</i>)	Used also with father, son, daughter, brother, sister, and friend.	
<i>Se llama.....</i>	Her (his) name is.....	
4. Descriptive nouns		
<i>El niño, la niña</i>	boy, girl	These words were learned by pointing to a boy, a girl, boys and girls and saying the appropriate word. They were then used with salutations and with the phrases <i>¿Cómo se llama usted, niño or niña?</i> and <i>¿Cómo se llama la niña or el niño?</i> to gain facility in their use.
<i>los niños, las niñas</i>	boys, girls	
5. Farewells		
<i>Adiós</i>	Good-bye	On leaving class each child shakes hands with the teacher and a suitable farewell is used. Each form was introduced as another way to say goodbye after the previous one was automatic. When we began to use the days of the week the idea of "until" was worked out in English.
<i>Hasta la vista</i>	Good-bye	
<i>Hasta mañana</i>	Until tomorrow	
<i>Hasta luego</i>	Until later	
<i>Hasta el lunes, etcétera</i>	Until Monday, and so on.	
<i>Hasta la próxima vez</i>	Until next time	
<i>Hasta la semana próxima</i>	Until next week	
6. Ages		
<i>¿Cuántos años tiene usted?</i>	How old are you?	This was presented with several pictures of children with birthday cakes and candles and a simple story: <i>La niña se llama Marta. ¿Cuántos años tiene usted, Marta? Uno, dos, tres, cuatro</i> and so on to the correct number of candles. <i>Tengo.....años.</i>
<i>Tengo.....años.</i>	I am.....years old.	
<i>¿Cuántos años tiene María?</i>	How old is Mary?	
<i>María tiene.....años</i>	Mary isyears old.	

After three or four repetitions almost all of the children knew that the child was being asked how old she was and that she answered, "I am so many years old." Then everyone practiced telling his age. As the children had their birthdays these phrases were reviewed. When *la hermana*, *el hermano* were learned their ages were told also.

7. Courteous phrases

- | | |
|---|---|
| (1) <i>Gracias. De nada.</i> | Thank you; you're welcome. |
| (2) <i>Sírvase sentarse.</i>
<i>Sírvanse sentarse.</i> | Please sit down.
Please sit down. (plural) |
| (3) <i>Pase usted.</i>
<i>Pasen ustedes.</i> | Come in
Come in (plural) |
| (4) <i>Servidor(a)</i> | At your service |
| (5) <i>Presente</i> | Present (used in roll call) |
| (6) <i>Quisiera presentarle</i>
<i>a mi</i> { <i>amigo</i>
{ <i>amiga</i> | I would like to present you to my friend..... |
| (7) <i>Mucho gusto</i> | How do you do?
(lit. much pleasure) |
| (8) <i>¿Cómo está usted?</i>
<i>Estoy bien, gracias.</i>
<i>¿Y usted?</i>
<i>No estoy bien.</i>
<i>Lo siento mucho.</i> | How are you?
I am well, thank you.
And you?
I am not well.
I am very sorry. |
| (9) <i>Dispéñseme usted</i> | Excuse me. |
| (10) <i>Favor de.....</i> | Please..... |
| (11) <i>¡Feliz cumpleaños!</i> | Happy birthday. |
| (12) <i>¡Felices pascuas!</i> | Happy Easter. |
| (13) <i>¡Felices vacaciones!</i> | Happy vacation. |

These phrases were taught in dramatic situations entailing use of these words, the teacher being a participant first, then stepping aside when someone was eager to take over her role. Gestures, one's facial expressions, eyes, mouth, in short, one's whole behavior to put over such phrases as *gracias*, *sírvase sentarse*, *pase usted*, *estoy bien*, *gracias*, *no estoy bien* or *lo siento mucho* are exceedingly important.

The "ham" actor that is in every teacher must really be exercised in these situations.

These phrases were taught at the appropriate time for their use.

8. Counting

- | | |
|--|---------------------------------|
| <i>Vamos a contar.</i> | We are going to count. |
| <i>Los números de uno a doce</i> | The numbers from one to twelve. |
| <i>Favor de contar las ventanas, María</i> | Please count the windows, Mary. |

All the classroom objects were counted: the children, things drawn on the board, our fingers; we did simple addition and subtraction problems at the board and through dictation at their seats.

9. Some nouns

- | | | | |
|--------------------|----------------|--------------|----------|
| <i>libro</i> | <i>escuela</i> | book | school |
| <i>lápiz</i> | <i>casa</i> | pencil | house |
| <i>plumafuente</i> | <i>familia</i> | fountain pen | family |
| <i>regla</i> | <i>madre</i> | ruler | mother |
| <i>papel</i> | <i>padre</i> | paper | father |
| <i>escritorio</i> | <i>hijo</i> | desk | son |
| <i>silla</i> | <i>hija</i> | chair | daughter |
| <i>ventana</i> | <i>hermano</i> | window | brother |

These words were all taught with the real object or suitable pictures. A vocabulary list with a picture symbol and the Spanish word was started in their notebooks.

The nouns, used in such contexts as: *¿Cómo se llama el gato?* *¿De qué color es la casa?* *Cuántos hijos tiene el padre?* *¿Le gusta el color verde?* reinforces and reviews these phrases learned at another time.

<i>puerta</i>	<i>hermana</i>	door	sister
<i>bandera</i>	<i>pájaro</i>	flag	bird
<i>gato</i>	<i>perro</i>	cat	dog
<i>los colores: rojo,</i>		the colors: red,	
<i>negro, amarillo,</i>		black, yellow,	
<i>verde, azul, pardo,</i>		green, blue, brown,	
<i>blanco.</i>		white.	

10. The Calendar

<i>Los días de la semana.</i>	The days of the week.
<i>Los meses del año.</i>	The months of the year.
<i>¿Qué día de la semana es hoy?</i>	What day of the week is today?
<i>Hoy es.....</i>	Today is.....
<i>Ayer fué.....</i>	Yesterday was.....
<i>Anteayer fué.....</i>	Day before yesterday was.....
<i>Mañana será.....</i>	Tomorrow will be.....
<i>Pasado mañana será.....</i>	Day after tomorrow will be.....

The days of the week and the months of the year were learned by rote in connection with a Spanish calendar.

After the days of the week were learned we began keeping a calendar bulletin board with a chart headed: *¿Qué día de la semana es hoy?* A child gave the correct answer with: *Hoy es.....* The other four lines were added one each week until the chart was complete. At present, immediately after saying the pledge and singing "America," one asks: *¿Qué día de la semana es hoy?* *¿Qué día de la semana fué ayer?* and so on, with another child having a turn to answer. Then a third child reads the completed chart.

11. Classroom phrases

<i>Voy a pasar lista a la clase.</i>	I'm going to call the roll.
<i>Presente</i>	Present
<i>Servidor(a)</i>	At your service.
<i>Está ausente; están ausentes.</i>	Is absent, are absent.
<i>Falta María.</i>	Mary is absent.
<i>está enfermo(a)</i>	Is sick.
<i>¿Cuántas personas faltan?</i>	How many people are absent?
<i>Faltan.....personas.</i>people are absent.
<i>Nadie falta.</i>	No one is absent.

These were all learned at different times in connection with the roll call. At first the teacher called the roll and made the statements, *Falta Juan, Juana está enferma* or asked, *¿Está enfermo Carlos?* Now the children call the roll and make the appropriate remarks. At the conclusion the teacher asks: *¿Cuántas personas faltan?* and a child answers: *Nadie falta* or *Faltan..... personas.*

12. Verbal concepts

<i>Soy profesora.</i>	I am a teacher.
<i>No soy profesora.</i>	I am not a teacher.
<i>Usted es estudiante.</i>	You are a student.
<i>Soy estudiante.</i>	I am a student.
<i>No soy estudiante.</i>	I am not a student.
<i>No es estudiante.</i>	You (he, she) are (is) not a student.
<i>No es profesora.</i>	You (he, she) are (is) not a teacher.
<i>Yo voy a casa.</i>	I am going home.
<i>Tomás va a casa.</i>	Thomas is going home.

These phrases were taught with gestures, dramatizations, or drawings on the board. Phrases such as *¿Qué dije yo?* What did I say? or *¿Qué significan mis palabras?* What do my words mean? were used with the children answering in English so they could indicate whether they understood exactly the meaning of the phrases. In presenting similar verbal concepts another time a series of stick puppets is planned as a dramatic means of putting over an idea. The children can take these puppets

<i>Tomás y Teresa van a casa.</i>	Thomas and Theresa are going home.	and use the appropriate phrase with a particular action in a very meaningful way.
<i>Tomás y usted van a casa.</i>	Thomas and you are going home.	
<i>Tomás y yo vamos a casa.</i>	Thomas and I are going home.	
<i>Canto "América."</i>	I sing "America."	
<i>Teresa canta "América."</i>	Theresa is singing "America."	
<i>Teresa y usted cantan "América."</i>	Theresa and you are singing "America."	
<i>Teresa y yo cantamos "América."</i>	Theresa and I are singing "America."	
<i>Yo tengo un libro.</i>	I have a book.	
<i>Tomás tiene un libro.</i>	Thomas has a book.	
<i>Tomás y usted tienen un libro.</i>	Thomas and you have a book.	
<i>Tomás y yo tenemos un libro.</i>	Thomas and I have a book.	

13. The Pledge

<i>El juramento a la bandera.</i>	The pledge to the flag.	Saying the pledge to the flag.
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14. Three songs

<i>"América" — tres estrofas.</i>	"America" — three verses.	"América" and the other songs were first introduced in the club where they were learned as a whole but a break-down line by line or idea by idea was made in order that the children might understand the meaning of the words. "Letrilla" was also learned in this way and many use it as a prayer when going to bed.
<i>Cumpleaños feliz.</i>	Happy Birthday.	
<i>Fray Felipe.</i>	Brother John (lit. Philip)	

15. A poem

<i>Letrilla</i>	Short poem
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16. Two games

(1) <i>Veó algo que ustedes no ven que es.....</i>	I see something that you don't see that is.....	The two games were played during the club period and are extremely popular with the children.
(2) <i>¿Quién tiene mi hueso?</i>	Who has my bone?	

SUMMARY

I learned a great deal as I went along. For example, I had to be very careful not to present the written words for their notebooks before the aural-oral patterns were completely set; otherwise the children reverted to English pronunciations of such letters or letter combinations as t, z, b, v, p, er, and que. I probably spoke too fast; I found it difficult to strike a happy medium that maintained an authentic Spanish rhythm in a phrase and yet was slow enough for unaccustomed ears to capture

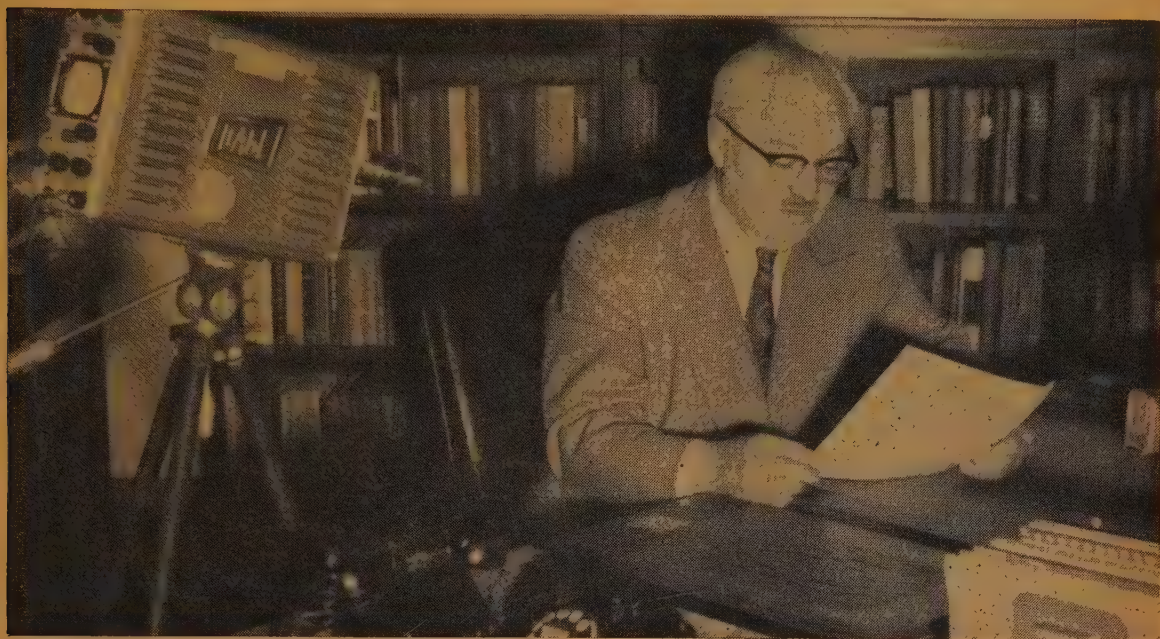
individual sounds correctly. I work at this constantly and hope to achieve a good, clear, rhythmic manner of presentation.

We have lacked a library or depository of materials. This has its advantages in that ingenuity had to be exercised in devising methods of teaching; but there is a certain stimulation and motivation in having concrete things to manipulate, read, work, or construct. We have been slow to acquire things, being a little uncertain regarding class needs; in time we hope to

have some very worthwhile, usable material.

It is unfortunate that the children do not have daily instruction in Spanish. On the other hand, considering the time allotted, their learnings have been substan-

tial. Their enthusiasm and mine continue unabated, and we look forward to another year of work with great anticipation. Wonders can be worked with willing hearts.



Dean Cook Utilizes the Intercommunication System

BUILT-IN TV FOR TEACHER TRAINING¹

PHILIP LEWIS

CHICAGO TEACHERS COLLEGE

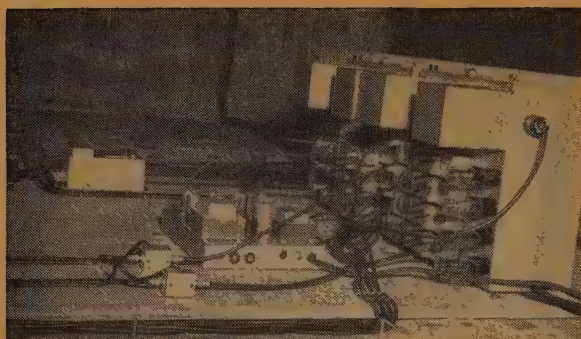
THE experiments in closed-circuit television conducted at Chicago Teachers College and recently reported in the *Chicago Schools Journal*² furnished both data and direction for taking the next step in this exciting field. A coaxial cable distribution system was installed during the summer which incorporates many novel features and has outlets in thirty-five room locations in the Main College Building. The application possibilities are legion and also suggest many ways in which high schools as well as specialized institutions can profit from similar projects.

THE SYSTEM ITSELF

To insure optimum reception of television programs from the regular Chicago outlets, four separate antennas have been located on the roof, each adjusted to bring in the best signal from a single station. A fifth antenna has been added as provision for receiving Channel 11 when the new educational venture begins operation next year. Since the signals normally received are not sufficiently strong for dis-

¹Photographs Courtesy of George Polka

²"Closed-Circuit TV—New Tool for Teachers." By Philip Lewis. *Chicago Schools Journal*, November-December, 1953.



Side View of Channel Amplifiers

tribution throughout a large building, each antenna is fed into a special Jerrold amplifier designed to boost the reception of a single specific channel. With this device, signal strength can be raised to any desired level.

The amplified signals are directed into a coaxial cable network which electronically connects classrooms, laboratories, libraries, the Dean's Office, the auditorium, the lunchroom, the Materials Center, and the Audio-Visual Center. Each of the locations mentioned is equipped with one or more terminal plug-in boxes to facilitate the connection of video receivers in a matter of seconds, and at the same time insure the reception of interference-free images.

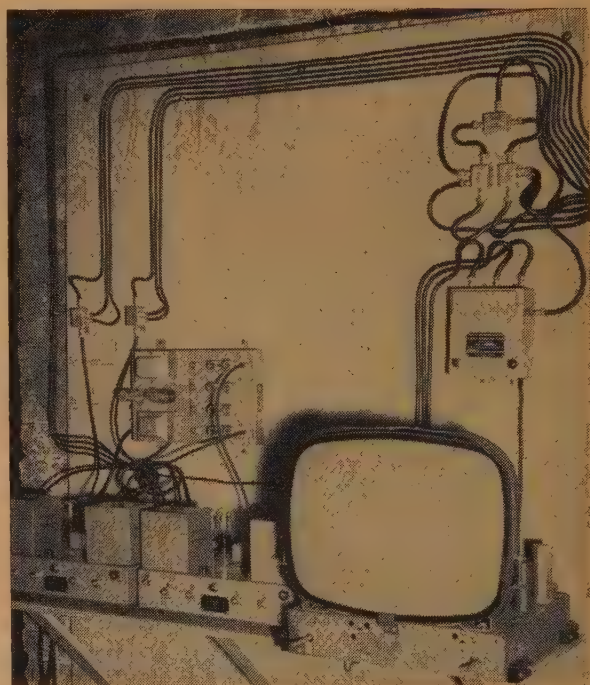
A second coaxial network also terminates at the plug-in boxes mentioned and provides for the insertion of one or more Dage television cameras at these places. This camera cable system leads to three additional channel amplifiers for signal boosting purposes and then is connected to the original circuit in the same manner as the outside antennas described previously. The installation has been designed so that three cameras can be operated on the same cable simultaneously without mutual interference. The cameras are adjusted to transmit their signals over channels not used by commercial telecasters in the area. This makes it possible for the TV receivers located in the classrooms to be set to select outside programming from distant stations, or local

offerings produced within the College building through the manipulation of the regular channel switch.

A four-wire intercommunication cable also connects to a third outlet in the plug-in boxes and provides the convenience of an audio-amplified system for disseminating voice or music to the many rooms. Even with the relatively large number of locations involved at present, the system is designed for expansion as the need arises. Additional cables can be added to the network for use in adjoining buildings. The Amphenol coaxial cable employed is approximately one-fourth of an inch in diameter and carries no high voltage or high current. In addition, color transmissions can be adequately distributed with this same conductor when such a step seems advisable.

UNIQUE APPLICATIONS

In the laboratories and shops the installation can be used within a single room for magnification purposes. Thus, a demonstration of a hand skill, the performance of a chemical experiment, the examination



Amplification and Distribution Systems

of a biology specimen, or the illustration of a magnetic field trace created with iron filings can be done under the watchful eye of the TV camera. This same device can be directed into the eyepiece of a microscope or telescope. By utilizing this procedure every member of the group is afforded a ringside seat and may watch the activity on one or more television receivers.

Each semester the entering freshman class requires careful orientation and introduction to the regular and special features of the College. With captive television, plans are being made to seat the newly admitted students in a central location while the television camera is taken on tour. Visits could then be made to the libraries, the lunchroom, to key staff personnel in their customary environments, and to a score of other strategic points of interest. The audio intercommunication provision would permit two-way discussion at all times.

Worthwhile activities originating in a classroom, the library, the Audio-Visual Center, and other locations can be picked up electronically and reproduced on the three large receivers placed around the perimeter of the auditorium stage. In this way the entire student body can share valuable experiences ordinarily restricted to small groups. Likewise, Theatre Workshop productions, talent shows, and demonstrations given on the stage can be viewed remotely in the classroom by selected or general audiences.

Plug-in connection boxes situated in the Audio-Visual Center permit an entirely new approach to the distribution of sound or silent motion pictures. As many as three television cameras can be positioned to receive images from a like number of 16mm motion picture projectors simultaneously. Each camera transmits the electronic images on a different channel via the coaxial cable. The classroom teacher selects the film desired through the channel switch setting on the video

receiver. In this way, films requested in advance can be viewed in a classroom without the necessity of setting up a screen or wheeling in the projector. This would also result in more efficient utilization of equipment since time would not be lost in transit, or in standing idly in a classroom.

Advance publicity heralds the advent of a magnetic tape machine that will record the video signal as well as the audio pattern on a tape. When the Video Tape Recorder is available for general use, this astounding device will provide an easy means of recording any television program, which can then be stored and employed the exact moment it is needed. At such times the tape can be played back through a TV receiver or distributed to classrooms on the cable. This will supply the flexibility needed for practical utilization of television in the schools.

Registration procedures conducted each semester involve the processing of hundreds of students. Connecting the several separate locations employed in this process with captive TV and audio intercommunication last term was found to save between 20 and 25 per cent of the total time ordinarily involved. In this way students are spared the necessity of remaking programs because classes were closed before they reached the last step in the process. This feat was accomplished by posting a description of closed classes on a bulletin board positioned before the television camera. Without loss of time, the information was flashed to all rooms involved in the registration. Phonograph music, played over the audio system, provided appropriate background listening fare. This same setup served as a public address system for announcements and paging purposes.

Mass testing of students is particularly well suited to this video setup. A number of regular classrooms, each equipped with a television receiver and a proctor, can be supplied with standard and uniform directions, both visually and aurally, from a central source. Two-way communica-

tion permits the asking and answering of pertinent questions. Here, indeed, is the answer to the theoretically desirable arrangement for utilizing standard measuring instruments with large groups.

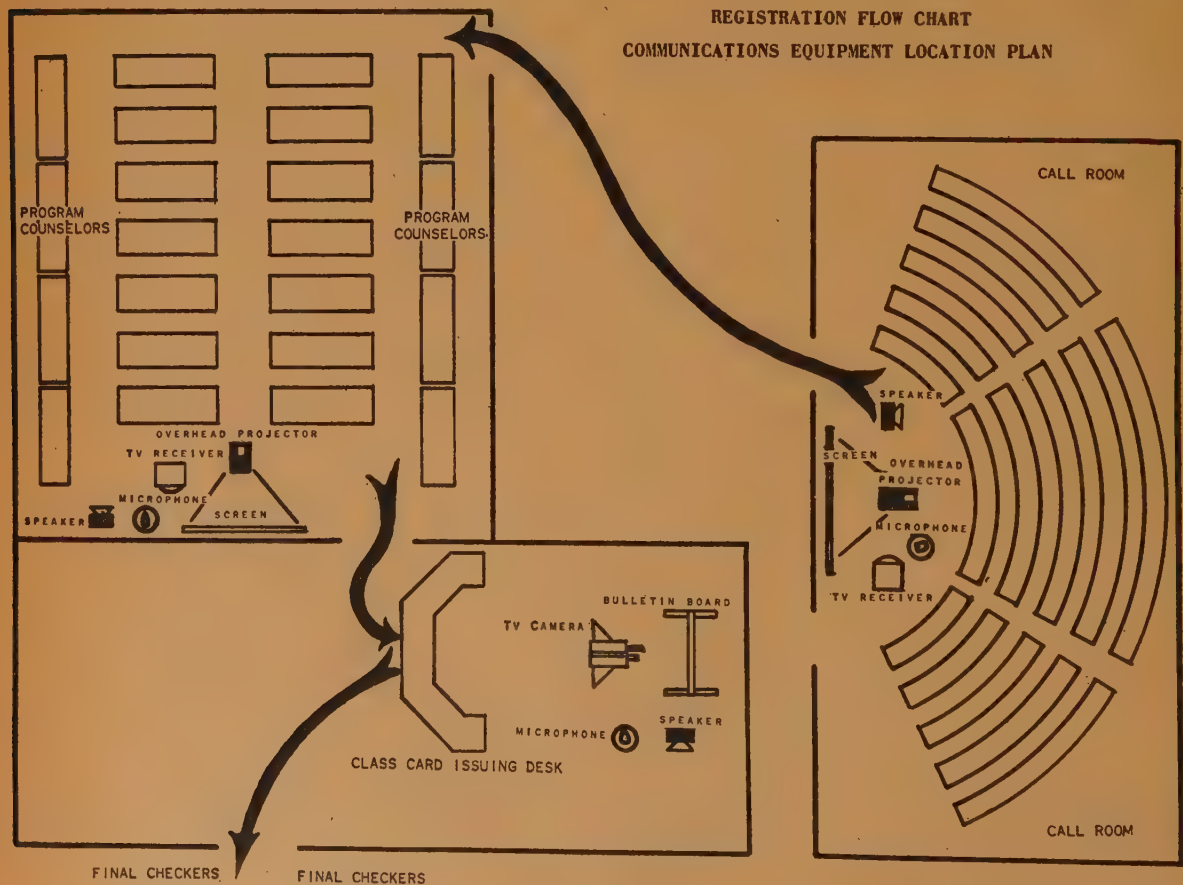
The connection in the Dean's Office will permit him to communicate with specific or general segments of the student body without the necessity of having them assemble in a single meeting place. This is economical of time and reduces scheduling complexities.

The open-air commencements, concerts, and other large-scale projects pose a serious problem. If inclement weather interferes, it is not always possible to accommodate the crowds in the College auditorium. In such instances study halls, the gymnasium, and large classrooms can be employed to seat the overflow so they

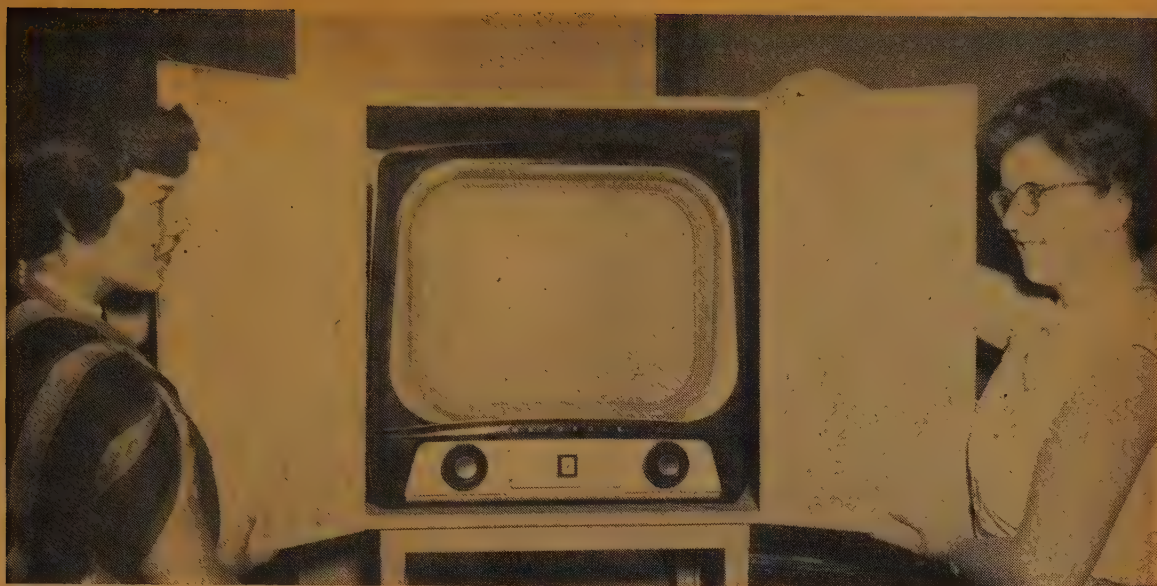
can view the activities by means of closed-circuit TV.

When other cables are added, the network can be employed during athletic meets and similar competitions. The TV camera can accommodate overflow audiences from the balcony of the swimming pool and the gymnasium. Similarly, first aid and water safety demonstrations can be viewed from the comfort and vantage point of the classroom.

Theatre Workshop and the speech classes can use the intra-tele setup in a single room as a monitor. This permits viewing the total effect of a production, analyzing gestures, or for rehearsal as preparation for airing a program through a local TV station outlet. A supplementary project, now in the advanced planning stage, is a large television studio to be located in the Dome Room of the main



Chicago Teachers College Registration Diagram



Corner Mounting Cabinet

college building. When completed, this unit will provide firsthand experiences for teachers in training as well as teachers in service and assist them in capitalizing more effectively on the potential of educational TV. Programs originating in the Dome will tie in with the coaxial distribution system to permit audience viewing anywhere in the building. An eventuality would be the addition of a micro-wave relay on the College roof to direct local programs to Channel 11, Chicago's proposed educational television station.

It is planned to have receivers permanently installed in every classroom, and built-in cabinets have already been de-

signed to protect the sets as well as to provide adequate ventilation and easy access for servicing. Thorough field testing with the Motorola classroom-type receiver revealed that the 21-inch screen size is satisfactory for the usual room. Some of the larger classrooms are fitted for two receivers, while three 24-inch sets are available for the auditorium.

The opportunities for observation of expert teachers in action, the potentialities for the development of new techniques for more effective subject presentation, and the extreme flexibility of this teaching tool hold great hope for its wide implementation.

The motion picture is now a powerful tool of communication and education. . . . In the years ahead, I am sure the motion picture will become an even more effective weapon for truth and human liberty.

— Dwight D. Eisenhower

ARITHMETIC SURVEY TESTS

An Analysis of Pupil Errors¹

MILDRED W. KIRK

FORESTVILLE SCHOOL

THIS report is limited to analyzing the written work of seventy pupils of the 7A grade on the *Chicago Arithmetic Survey Test*, Form CIR. It is hoped that the difficulties pointed out may aid teachers in more effective remedial instruction.

The arithmetic tests scored for the upper grades for several semesters showed that about half of the students measured up to grade level or above when the total raw score was expressed in grade equivalents. However, that raw score was deficient in standards set by the course of study when the more complex arithmetic skills of fractions, decimals, percentage, and measurement were involved.

A close study of the actual written work was made in order to analyze the errors made by the pupils and thus determine some of the difficulties. There are numerous errors which could have been made which were not evident to the analyst and so are not listed. The errors which could be determined are tabulated.

The raw scores and grade equivalents for the seventy pupils appear in the following frequency table.

Raw Score	Grade Equivalent	Number of Pupils
31	5.8	2
32	5.9	1
33	6.0	
34	6.1	
35	6.2	
36	6.3	
37	6.4	
38	6.5	1
39-40	6.6	5
41-42	6.7	1
43-44	6.8	5
45-46	6.9	5
47	7.0	1
48-49	7.1	6
50-51	7.2	5
52-53	7.3	5
54-55	7.4	3
56-57	7.5	3
58-59	7.6	3
60-61	7.7	5
62-63	7.8	5
64	7.9	3
65	8.0	2
66	8.1	1
67	8.3	
68	8.5	1
69	8.6	1
70	8.7	
71	8.8	1
72	8.9	1
73	9.0	
Above 73	Above 9.0	1

Total 70

An analysis of these raw scores showed how many times pupils met or failed to meet the course of study standards.

¹Made by seventy 7A pupils of the Forestville School, May 1952, Form CIR.

Process	Course of Study Standards For 7A	Pupils' Scores											
		Number of Problems Right											
		0	1	2	3	4	5	6	7	8	9	10	11
Addition	7				1	3	11	23	32				
Subtraction	7			1		2	7	23	37				
Multiplication	7			1	4	7	15	20	23				
Division	10	2	1	5	4	2	3	4	8	12	15	14	
Decimals	7	3	5	4	18	17	10	11	2				
Common Fractions	10	1	2	3	3	8	7	9	9	9	12	7	
Percentage	7	2	4	15	13	12	14	8	2				
Measurement	11	4	6	13	10	5	6	11	5	4	2	3	1
Reasoning	9			3	5	7	10	8	6	12	10	7	2
Graphs	2	6	18	46									

In the addition section of the test there were thirty-two pupils who met the course of study standards; in subtraction, thirty-seven; in multiplication, twenty-three; in division, fourteen; in decimals, two; in common fractions, seven; in percentage, two; in measurement, one. There was a pickup in the reasoning, for nineteen met the required score of nine or more. Forty-six pupils had the necessary point score for the graphs.

ADDITION

The skills involved in the addition of whole numbers are presented in Table I of the *Manual of Directions for the Chicago Arithmetic Survey Tests*. They are:

1. Adding a seen number to an unseen number in simplest column addition.
2. Simple column addition with zeros. No sum above ten.
3. Simple column addition with bridging. No sum above eighteen.
4. Addition with one-place carrying. Carried number, one.
5. Higher decade addition with bridging in higher decade.
6. Higher decade addition without bridging in higher decade.
7. Addition with two successive cases of carrying. Carried numbers two or three.
8. Addition of numbers with irregular left margin.

9. Long column addition. More than six figures in a column.

10. Addition complete.

The pupils indicated no noticeable deficiency in the comprehension of addition for there were no omissions. The number of times the problems were missed are as follows:

Problem Number	Missed
1	4
2	3
3	2
4	8
5	16
6	4
7	10

The errors which could be determined were:

I. Frequency of Faulty Habits in Addition of Whole Numbers.

- | | |
|--|----|
| A. Errors in Combination | 39 |
| B. Carrying Difficulties | |
| 1. Forgot to add carried number | 5 |
| 2. Carried when there was nothing to carry | 4 |
| 3. Error in carrying into zero | 1 |

C. Faulty Procedures

- | | |
|---|---|
| 1. Grouped numbers | 2 |
| 2. Lost place in the column | 1 |
| 3. Disregarded one column | 2 |
| 4. Didn't know what to do with empty spaces | 5 |

D. Miscellaneous Faults

- | | |
|--------------------------------------|----|
| 1. Omitted dollar sign | 7 |
| 2. Omitted decimal point | 2 |
| 3. Omitted comma where needed in sum | 10 |

The largest cause of errors was that of combination. This was the apparent error for problems numbers one, two, three, four, and six. Problems numbers five and seven, which involved addition of numbers with irregular left margin, were missed most frequently. In number five it was found that some pupils had carried the two from the third column but neglected the one of the 1046 in the final addition. In problem number seven some pupils forgot the dollar sign and decimal point. One lost his place when distracted by the zeros or open space in the irregular left hand columns.

The omission of the comma where needed was evidence of neglect or of ignorance in writing four- or five-place numbers.

SUBTRACTION

The skills involved in the subtraction of whole numbers appear in Table II of the *Manual*. They are as follows:

1. Subtraction in two- and three-place numbers, no carrying, no bridging.
2. Subtraction with zeros.
3. Subtraction with bridging, no carrying.
4. Subtraction with one-place carrying.
5. Subtraction with carrying in tens place only.
6. Subtraction with irregular left column.
7. Subtraction with two successive cases of carrying.
8. Subtraction with zeros in minuend.
9. Subtraction with three-place carrying.
10. Subtraction with alternate cases of carrying.
11. Subtraction complete.

In the subtraction of whole numbers all pupils evidenced comprehension of the process for there were no omissions. The problems were missed as follows:

Problem Number	Missed
1	1
2	3
3	2
4	7
5	9
6	7
7	8

The errors which could be determined were:

II. Frequency of Faulty Habits in Subtraction of Whole Numbers.

A. Errors in Combination 11

B. Borrowing Difficulties

- | | |
|--|----|
| 1. Did not allow for having borrowed | 12 |
| 2. Failed to borrow | 5 |
| 3. Borrowed when not necessary | 4 |
| 4. Errors due to zero in minuend | 5 |
| 5. Increased minuend digit after borrowing | 2 |
| 6. Error in two-place borrowing; blank space | 1 |
| 7. Error in double zero borrowing in minuend | 3 |
| 8. Error in zeros in minuend and subtrahend | 5 |
| 9. Decreased minuend digit after borrowing | 2 |
| 10. Borrowed twice from left hand digit | 2 |

C. Miscellaneous Faults

- | | |
|-------------------------------|---|
| 1. Omitted comma where needed | 5 |
| 2. Failed to complete problem | 5 |
| 3. Illegible figures | 1 |

The largest error in subtraction of whole numbers was that of combination. Little difficulty was shown for the first three problems. However, number four required subtraction with two successive cases of borrowing. This skill did not appear disturbing; the error here was that of combination. Problem number five was missed because of the double zero in the minu-

end. Here some forgot they had borrowed from five and subtracted erroneously. In problem six there was the alternate borrowing. Some pupils were confused by the zero in minuend and subtracted six from nine instead of six from ten. In problem seven the zero in both minuend and subtrahend presented difficulty. Some borrowed twice, some forgot to borrow for the second zero. One did not borrow for the middle zeros, but just wrote zero under as the remainder. Two students borrowed from the left-hand figure twice.

Five pupils failed to complete their problems. This may have been neglect in transferring score from scratch paper.

MULTIPLICATION

Table III of the *Manual* describes the skills required for multiplication as follows:

1. Multiplication by two and three without carrying.
2. Multiplication by two, three, or four with one-place carrying.
3. Multiplication by three, four, five, or six. Carrying to zero.
4. Multiplication by three, four, six, or seven with two successive cases of carrying.
5. Multiplication by two-place multiplier.
6. Multiplication by one-place multiplier, alternate and three successive cases of carrying.
7. Multiplication of three- or four-place multiplicand by a two-place multiplier, zero at end of multiplier.
8. Multiplication with three-place multiplier, middle zero in multiplier.
9. Multiplication complete.

The process of multiplication seemed to be understood by all of the pupils for percentage of omissions was small. It was found that the placement of these problems was poor. Few pupils write their figures small enough to get all of the problems in without crowding. More often than not the answer for number six was obscured by the printing at the bottom of the page. The problems were missed as follows:

Problem Number	Missed	Omitted
1	0	0
2	3	0
3	1	1
4	9	1
5	11	4
6	21	1
7	35	3

The errors which could be determined were:

III. Frequency of Faulty Habits in Multiplication of Whole Numbers.

- A. Errors in Combination 24
- B. Errors in single zero combinations, zero as multiplier. 2
- C. Carrying Difficulties
 1. Error in adding carried number 10
 2. Carried wrong number 12
 3. Forgot to carry 10
 4. Multiplied the carried number 4
 5. Added carried number twice 2
 6. Carried when nothing to carry 2
- D. Evidences of Counting
 1. Multiplied by adding 1
 2. Wrote tables 1
- E. Faulty Procedures
 1. Errors due to zero as multiplier 4
 2. Omitted digit in multiplier 5
 3. Omitted digit in multiplicand 3
 4. Error in position of partial products 11
 5. Confused products when multiplier had two or three digits 2
 6. Omitted digit in product 1
 7. Forgot to add the carried number 1
 8. Split multiplier 3
 9. Wrote digit of product in reverse 1
 10. Multiplied by zero as though it were one 1
- F. Miscellaneous Faults
 1. Omitted commas where needed 15
 2. Failed to complete problem 3
 3. Unable to analyze 1

The largest percentage of error in multiplication was again that of combination. In problems one, two, and three the percentage was quite small, but when it came to using a two-place and three-place multiplier errors increased considerably. Carrying presented numerous errors in multiplying. Twelve pupils carried the wrong number, while ten added the carried number incorrectly. Ten others forgot to carry and four multiplied the carried number. Two added the carried number twice and two carried when there was nothing to carry.

Faulty procedure as well as errors in combination caused the sixth and seventh problems to be missed so often. Eleven pupils failed to write the partial products in the proper position; they failed to allow a place for the multiplier in ten's place. Four were obviously confused by the zero as multiplier for one of them multiplied as though it were one. Three pupils split the multiplier, neglecting the zero completely. The other single errors, omission of digit in product and the writing of digits of product in reverse, were possibly carelessness.

DIVISION

In division of whole numbers the following skills are listed in the *Manual*:

1. Even division by two, two-place quotient.
2. Uneven division by two, no remainder in quotient.
3. Uneven division by three, four, five, or six, remainder in quotient.
4. Uneven division by three, four, six, or seven, final zero in quotient.
5. Division by two-place divisors, one-place quotient.
6. Division by six, seven, eight, or nine, middle and final zero in quotient.
7. Division by two-place divisor, two-place quotient, apparent quotient figures only.
8. Division by two-place divisor, zero in quotient, final or middle.
9. Division by "teen" divisors.
10. Division by two-place divisor with two-place quotient, non-apparent quotient figures.
11. Division complete.

The pupils show considerable confusion here because the possibilities for making errors are increased with the more complex process of division. The number of times the problems were missed and omitted appears as follows:

Problem Number	Missed	Omitted
1	2	1
2	8	1
3	11	1
4	8	4
5	18	4
6	5	4
7	16	5
8	15	4
9	19	11
10	16	17

The errors which could be determined were:

IV. Frequency of Faulty Habits in Division of Whole Numbers.

- A. Errors in Division Combinations 27
- B. Errors in Subtraction 22
- C. Errors in Multiplication 26
- D. Remainders
 1. Used remainder larger than divisor 4
 2. Neglected to use remainder within example 6
 3. Omitted final remainder 2
 4. Used remainder without new dividend figure 2
 5. Wrote all remainders at the end of the example 17
 6. Added remainder to the quotient 3
 7. Reduced remainder erroneously 3
- E. Faulty Procedures
 1. Found quotient by trial multiplication 18
 2. Failed to find true quotient 14
 3. Omitted zero in quotient 20
 4. Omitted digit in dividend 9
 5. Omitted zero resulting from zero in dividend 1
 6. Used too large a product 4
 7. Used digits of divisor separately 2

8. Used digits in dividend twice 2
9. Split dividend 4
10. Added zeros to dividend when quotient was not a whole number 19
11. Wrote row of zeros 1
12. Omitted quotient completely 1
- F. Miscellaneous Faults
 1. Illegible figures 2
 2. Added decimal point and zeros to dividend 1
 3. Brought down quotient figure, copied it wrong 2
 4. Wrong quotient, correct computation within problem 2
 5. Wrote equal sign for fractional remainder in quotient 1

Here we find a large percentage of errors due to faulty habits in division combinations as well as multiplication and subtraction combinations. Many showed uncertainty with the remainder, four did not know when it was too large, six did not know how to continue after the first remainder, while two omitted the remainder. There was evident difficulty with trial quotients for eighteen found the quotient by trial multiplication, while fourteen failed to find the true quotient.

DECIMALS

The skills involved in the seven decimal problems of the test are listed in the *Manual* as follows:

1. Meaning of decimals.
2. Reading and writing decimals of two places.
3. Addition and subtraction of decimals.
4. Division of decimals by whole numbers.
5. Division of decimals by decimals.
6. Changing common fractions to three-place decimals.

The following shows how often the problems were omitted and missed:

Problem Number	Missed	Omitted
1	31	1
2	26	2
3	15	1
4	23	1
5	26	8
6	38	14
7	31	18

Examination of the written work revealed the reasons for the errors:

V. Frequency of Faulty Habits in Decimals

- A. Lack of comprehension of the numerical values of decimals 31
- B. Difficulties in reading and writing decimals
 1. Inability to write decimals when given in words 24
 2. Misplacing of decimal point 6
- C. Difficulties in Addition
 1. Inability to write figures in correct placement 1
 2. Errors in addition 6
- D. Difficulties in Multiplication
 1. Errors in multiplication 17
 2. Difficulties in carrying 5
 3. Errors in addition of partial products 2
 4. Partial product given 3
 5. Misplacing of decimal point 6
 6. Omission of decimal point 1
- E. Errors in Division of Decimals
 1. Errors in division 12
 2. Difficulties with trial divisor 25
 3. Errors in multiplication 15
 4. Errors in subtraction 7
 5. Misplacing of decimal point 14
 6. Omission of decimal point 4
 7. Partial quotient 1
 8. Zero difficulties
 - a. Failure to annex zero in dividend for one, two, three decimal places 37
 - b. Placing of extra zeros in quotient 2
 - c. Prefixing unnecessary zeros in quotient 1
 9. Inability to write common fractions as decimals
 - a. Failure to know correct procedure 10
 - b. Divides denominator by numerator 6
 - c. Errors in division 6
 - d. Errors in multiplication 1
 - e. Zero difficulties 2
 - f. Misplacing of decimal point 6
 - g. Omission of decimal point 1
- F. Other Difficulties
 1. Copied figures incorrectly 4
 2. Used two decimal points in product 1

The high frequency of error in decimals showed lack of comprehension of the numerical value of decimals as well as how to proceed with each problem step by step. The one positive feature was the knowledge that a decimal point was required some place in the answer.

FRACTIONS

The skills described for common fractions are listed in Table V of the *Manual*. They are:

1. Meaning of multiple fraction of a whole.
2. Meaning of multiple fraction of a group.
3. Addition with like denominators.
4. Subtraction with like denominators.
5. Multiplication of fractions.
6. Division of fractions.
7. Multiplication of mixed numbers.
8. Division of mixed numbers.
9. Addition of fraction and mixed numbers, unlike denominators.

The number of times the problems were missed and omitted were:

Problem Number	Missed	Omitted
1	16	0
2	9	4
3	19	0
4	20	1
5	5	1
6	20	7
7	21	3
8	25	5
9	31	1
10	33	3

The errors which could be determined were:

VI. Frequency of Faulty Habits in Fractions

- A. Lack of comprehension of the term "fractional part" 16
- B. Difficulty in Addition
 1. Lack of comprehension of the process involved 5
 - a. Added denominators and numerators 4
 - b. Added numerators without finding common denominator; used one of the denominators in sum 1

2. Difficulty in reducing fractions to lowest terms
 - a. Did not reduce fraction 20
 - b. Reduced fraction, did not add to whole number 2
 - c. Divided denominator and numerator by different numbers 2
3. Difficulty with improper fractions
 - a. Did not change improper fraction to mixed number 4
4. Computation errors in addition 5
5. Used wrong process
 - a. Used subtraction 2
 - b. Used multiplication 3
 - c. Subtracted fractions and added whole numbers 3
 - d. Added fractions but disregarded whole numbers 1
6. Difficulty in changing fractions to common denominator
 - a. Changed to wrong denominator 4
 - b. Did not multiply numerator in reduction 2
 - c. Did not express denominator 4
7. Difficulty in borrowing
 - a. Added denominator of fraction to whole number 1

C. Difficulty in Subtraction

1. Difficulties in borrowing
 - a. Borrowed but disregarded fraction in minuend 3
 - b. Borrowed as much as was needed to make numerator in minuend larger than subtrahend 1
2. Used wrong process
 - a. Used addition 12
 - b. Used multiplication 1
 - c. Subtracted whole numbers and added fractions 2
 - d. Added whole numbers and subtracted fractions 1
3. Difficulty in reducing fractions to lowest terms
 - a. Did not reduce 7
 - b. Divided numerator and denominator by different numbers 3

4. Lack of comprehension of process involved		7. Carrying difficulties	2
a. Subtracted numerators and denominators	1	8. Other difficulties	
b. Subtracted fraction in minuend from fraction in subtrahend	1	a. Multiplied numerator by denominator, then multiplied sum by whole number	1
5. Difficulty in changing fractions to common denominator		b. Multiplied numerator by denominator, then added the whole number	1
a. Subtracted without changing used one of the given denominators	3	E. Difficulty in Division	
b. Changed fraction to wrong numerator	10	1. Used the wrong process — used multiplication	18
c. Changed fraction to wrong denominator	3	2. Computation errors	
6. Computation errors		a. Division	5
a. Subtraction	3	b. Multiplication	3
b. Addition	4	3. Lack of comprehension of process involved	
c. Unknown	1	a. Inverted dividend	4
7. Partial Operation		b. Disregarded denominator in quotient	1
a. Subtracted fractions but disregarded whole numbers	1	c. Disregarded numerator in quotient	1
b. Subtracted whole numbers but disregarded fractions	2	d. Multiplied numerator and denominator by whole number	1
8. Copied figures wrong	2	4. Difficulty in changing mixed number to improper fraction	5
D. Difficulty in Multiplication		5. Failure to change improper fraction to mixed number	1
1. Computation errors		6. Difficulty in cancellation	
a. Division	5	a. Canceled within denominator	1
b. Multiplication	7	b. Canceled within numerators	1
2. Lack of comprehension of process involved		7. Copied figures wrong	2
a. Did not know "of" meant "times"	6	8. Incomplete work	1
b. Inverted multiplicand	4		
c. Inverted multiplier	3		
d. Added numerators and multiplied denominators	1		
e. Multiplied numerators and added denominators	1		
3. Difficulty in reducing fractions to lowest terms			
a. Did not reduce fractions	1		
b. Divided numerator and denominator by different numbers	1		
4. Failure to change improper fraction to mixed number	5		
5. Difficulty in changing mixed number to improper fraction	2		
6. Difficulty in cancellation, canceled within denominator	1		

The high incidence of error in fractions indicated widespread confusion with the processes involved.

PERCENTAGE

The skills required for percentage are in Table VII of the *Manual*. They are:

1. Changing per cent to decimals.
2. Case I: Finding a certain per cent of a number.
3. Finding simple interest.
4. Finding amount of taxes from given rate and assessed valuation.
5. Changing decimals to per cent.
6. Case II: Finding what per cent one number is of another.

7. Problem in Case II percentage.
8. Case III: Finding a number when a certain per cent of it is given.

The number of times the problems in percentage were missed and omitted follow. Two pupils did not attempt any of the problems.

Problem Number	Missed	Omitted
1	10	1
2	29	4
3	28	10
4	32	30
5	27	34
6	0	2
7	35	5
8	36	24
9	48	15
10	27	22

Examination of the errors on this part of the test indicates a lack of knowledge of the process involved in working percentage, plus reading difficulty inasmuch as each example is presented as a reading problem. The errors which could be determined were:

I. Difficulties in Changing Per Cent to Decimals

- A. Merely drops per cent sign, writes as whole number 4
- B. Moves decimal point to left 19
- C. Drops per cent sign and prefixes zero 1
- D. Copies number and changes it to a fraction 1
- E. Omits decimal point 2
- F. Writes as a whole number plus decimal 9
- G. Change as for mixed number adds decimal point 3

II. Difficulties in Finding Per Cent of a Number

- A. Divides the numbers, base by the rate 4
- B. Drops decimal point in answer 1
- C. Fails to change mills properly 14
- D. Copies number, points off two places, disregarding per cent entirely 2

- E. Finds one-half of base instead of per cent 2
- F. Errors in computation 13
- G. Error in placement of decimal point 14
- H. Lack knowledge of the process involved, time element 41
- I. Added a step after finding per cent 1

III. Difficulties in Changing Decimals to Per Cent

- A. Drops decimal point and adds per cent symbol 26
- B. Drops decimal point, prefixes zero 4
- C. Moves decimal point to right 5
- D. Inserts zeros and retains decimal point 1
- E. Changes fraction to wrong equivalent 1
- F. Copies wrong figures 1

IV. Difficulties in Finding What Per Cent One Number Is of Another

- A. Divides base by percentage 7
- B. Fails to express quotient as per cent 2
- C. Multiplies base and percentage 13
- D. Adds base and percentage 1
- E. Subtracts base and percentage 1
- F. Divides percentage by base but fails to carry work out to hundredths when quotient is a whole number 9
- G. Attempts to change percentage to fractional equivalent 2
- H. Drops per cent sign and subtracts 37
- I. Computation errors 5
- J. Unknown difficulties 12

V. Difficulties in Finding a Number When Per Cent is Given

- A. Copies percentage and
 - (1) multiplies 17
 - (2) adds 2
 - (3) subtracts 1
- B. Partial work 1
- C. Unknown errors 5

The number of errors in percentage reflect lack of comprehension. Pupils did not know what process was necessary to solve the problems.

MEASUREMENT

The skills needed for measurement are listed in Table VIII of the *Manual* as follows:

1. Time: Changing weeks to days.
2. Space: Changing feet to inches.
3. Time: Changing years to months.
4. Space: Changing yards to feet.
5. Time: Finding time between days within a month.
6. Space: Changing yards to inches.
7. Time: Finding elapsed time between hours within a day.
8. Space: Changing feet and inches to inches.
9. Weight: Changing pounds to ounces.
10. Space: Finding areas of simple surfaces.
11. Time: Finding elapsed time in hours and minutes within twenty-four hours, or finding elapsed time in years and months to the extent of one's age.
12. Space: Finding number of feet in a part of a mile.
13. Approximate measurement of distances.
14. Perimeters and their formulas.
15. Measurement and computation of areas of rectangles and triangles.
16. Measurement and computation of areas of circles.
17. Measurement and computation of volumes of cylinders.
18. Measurement and computation of volumes of prisms.
19. Using Metric System in finding volume.
20. Scale drawing — finding lengths from scale.

Here the pupils showed ignorance of the standard tables of measures, weights, and time, as well as the formulas for computing problems in measurement. The number of times the problems were missed or omitted follow:

Problem Number	Missed	Omitted
1	30	12
2	33	2
3	23	1

4	27	1
5	11	8
6	30	10
7	39	5
8	40	12
9	31	28
10	33	15
11	24	35
12	22	43
13	17	43
14	12	45
15	14	29

The difficulties which could be determined were:

VII. Difficulties in Measurement

- A. Computation errors 31
- B. Carelessness in reading 10
- C. Lack of knowledge of facts essential to the solution of the problem
 - 1. Standard table of weights 9
 - 2. Standard table of measures 29
 - 3. Standard table of time 26
 - 4. Table of metric equivalents 10
- D. Lack of knowledge of process involved
 - 1. In finding area 41
 - 2. In finding circumference 27
 - 3. In finding volume 30
 - 4. In determining distances 29
 - 5. In distinguishing between linear measure and square measure 16
 - 6. In interpreting abbreviations 3
- E. Failure to complete answer by writing in qualifying word necessary 18
 - 1. Writing in the wrong word 4
- F. Omission of decimal point 3

In the first problem a frequent error was to subtract eleven from seventeen and give six as the answer. Some pupils named a day of the week, such as Friday. The most frequent answer for problem number two was thirty-six inches. In problem three the most common mistake was subtracting 3:00 from 8:00. Many gave the answer thirty-two inches for number four. Any

number of figures appear for number five; however, the most mistaken notion was that a pound is ten ounces. The answer given most often for number six was 324, which meant the pupil multiplied twice, $3 \times 6 = 18$, $18 \times 18 = 324$. Number seven seemed to mean simple subtraction for the answer, one hour and fifteen minutes was given frequently. There seemed to be no clear understanding of the term "two-figure" accuracy for the answer chosen most often was feet. In problem number nine, several pupils multiplied $12 \times 3 \times 3.14$. For number ten, the perimeter was given most often instead of the area. Some pupils gave just the square of the radius for problem number eleven, while others added the radius 8 plus 8×3.14 , and others did this $3.14 \times 4 \times 2$. For number twelve the common error was to multiply 6×4 . Pupils seemed to add the figures for the thirteenth problem, and then multiply by some unknown quantity 12 plus 24 plus 30 times something. They added again for number fourteen or used a partial formula. In number fifteen, a frequent answer was $80\frac{1}{2}$ inches which seems to be addition of 40 plus 40 plus $\frac{1}{2}$.

REASONING

The reasoning problems involved the following skills:

1. One-step problem in addition or subtraction.
2. One-step problem in subtraction or multiplication.
3. One-step problem in addition, subtraction, multiplication, or division.
4. Two-step problem involving whole numbers.
5. Two-step problem using larger whole numbers.
6. One-step problem in multiplication or division of fractions.
7. Two-step problem in multiplication or division.
8. Two-step problem without numbers.
9. Simple three-step problem.
10. Three-step problem involving division.
11. More difficult three-step problem involving multiplication or division.

The response on the reasoning problems indicated fair facility with reading problems involving one-step addition or subtraction but showed confusion with the two-step problem where no numbers were involved. The number of times the problems were missed and omitted were:

Problem Number	Missed	Omitted
1	3	1
2	7	0
3	14	4
4	8	1
5	14	6
6	24	15
7	20	9
8	37	10
9	14	5
10	18	13
11	18	24

A study of the computation and answers given for the reasoning problems revealed the following difficulties:

VIII. Difficulties in Reasoning

- | | |
|--|----|
| A. Failure to comprehend in whole or in part | 19 |
| B. Carelessness in reading | 22 |
| C. Computation errors | 51 |
| D. Confusion of processes | 33 |
| E. Inability in the use of fractions | 13 |
| F. Ignorance of quantitative relations, <i>i. e.</i> , cost, gain, selling price | 13 |
| G. Errors which could not be analyzed | 7 |
| H. Error in use of dollar sign and decimal point | 6 |
| I. Partial work | 11 |

The greatest error here was that of computation. There was some confusion as to what process to use in solving the problems. For instance, in number five many pupils added instead of subtracting. Then in number seven many pupils did the first step, then stopped. This was true of problems nine, ten, and eleven also.

GRAPHS

The two graphs involved the ability to construct a bar graph and a line graph.

Most of the children understood this part of the test as shown below:

Problem Number	Missed	Omitted
1	9	1
2	13	7

There was some confusion about the form for the line graph:

IX. Difficulties in Making Graphs

- A. Failure to comprehend graph form
 1. For bar graph 3
 2. For line graph 5
- B. Faulty procedure
 1. Made line graph for bar 1
 2. Made bar graph for line 1
 3. Made bars in wrong columns 5
 4. Made lines on wrong levels 7

CONCLUSIONS

The analysis of the seventy tests revealed adequate comprehension of the processes of simple addition and subtraction of whole numbers, but there exists a definite need of more drill on combinations to develop accuracy. Emphasis on procedure is evident in division and multiplication. More effective teaching in understanding decimals, fractions, and percentage in everyday usage would clarify this area. This means more teacher preparation in building the experiential background for the pupils. The teachers must insist on memorization of basic facts and formulas needed for measurement. Pupils must be encouraged to think through a problem to its conclusion.

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NEW TEACHING AIDS

EDITED BY JOSEPH J. URBANCEK

CHICAGO TEACHERS COLLEGE

Contributors to this section, are Vernon W. Brockman, Elinor S. Eklund, Henrietta H. Fernitz, Joseph M. Goodman, Paul Harrison, Mabel G. Hemington, and Sylvan D. Ward

FILMS

The following are available from Coronet Instructional Films, 65 East South Water Street, Chicago 1, Illinois:

Understanding Our Earth: Soil. 16 mm sound. 11 minutes. Black and white, \$50; color, \$100.

This film explains the soil profile, the elements and processes of soil making, the types of soil in the United States, and the importance of soil conservation. The photography is good and the voice of the narrator is pleasant and clear. In addition to the fine use of location maps, the series of questions posed in the concluding portion of the film should lead to some interesting discussions of soils. Recommended for upper grade and junior high school students in science and social studies. V. W. B.

Our Country's Song. 1 reel. 16 mm sound. Black and white, \$50; color, \$100.

The purpose of this film is to clarify the meaning of the words and thoughts expressed in our national

anthem. The film starts with a class reading the words of the song, which appear on the blackboard. In order to learn more about the song—its meaning, why it was written, and under what circumstances—the class undertakes the project of investigating the background of the song. A history lesson, handiwork in building a model fort and boats, a miniature battle scene, and a picture of Francis Scott Key composing the words to the song all make a dramatic impression upon the viewer of the film. S. D. W.

Mechanical Aptitudes. 1 reel. 16 mm sound. Black and white, \$50; color, \$100. Study guide supplied.

This film utilizes the case study approach to counseling. It tells the story of a high school boy who goes to the school counselor for help in choosing his electives. The practices carried on by the counselor demonstrate sound procedures for guidance work. Various techniques are used, such as information tests, information questionnaires, mechanical ability tests, and a test of thinking skill in mechanical relationships. Possibly the best feature of the film is

the warmth and enthusiasm displayed by the counselor in the film. Suitable for use in the high school for actual counseling situations or at the college level in a theory class. P. H.

The Ugly Duckling. 1 reel. 16 mm sound. 11 minutes. Black and white, \$50; color, \$100. Available with study guide.

Filmed in England, Hans Christian Andersen's story of *The Ugly Duckling* is delightfully told and portrayed. The narration is simple and clear and the concepts presented are within the primary child's understanding. The close-ups of the duck family and the barnyard animals are appealing, and the duck sounds are realistic. The English countryside settings, during the four seasons, are beautifully filmed. It is appropriate for background in the language arts program in the primary grades farm unit.

E. S. E

Understanding the Dollar. 1 reel. 16 mm sound. 15 minutes. Black and white, \$50.

Suitable for senior high school and college classes in economics, general business, social studies, home economics, and consumer education. Defines money as (1) a medium of exchange; (2) a standard of value to people in different industries; (3) stored purchasing power but not wealth itself. Uses easy to understand examples to clarify the definition. Illustrates changes in the value of the dollar in terms of (1) factors effecting these changes, such as demand and supply; (2) purchasing power of the dollar in commodities; (3) effect upon people: the person with fixed income, the wage earner, the salaried man, and profits of the business. This film is notable for the clarity of its examples, good timing, and excellent selection of content. The narrator ends with a question to the students for further discussion concerning the effect of change in dollar value upon people with various types of income. J. M. G.

FILMSTRIPS

The following are available from the Society for Visual Education, Inc., 1345 West Diversey Parkway, Chicago 14, Illinois:

Our National Government—How It Developed. Series of 4 filmstrips: *The Declaration of Independence*, 45 frames; *The Articles of Confederation*, 52 frames; *The Making and Adopting of the Constitution*, 55 frames; *The Growth of the Constitution*, 55 frames. Color, \$6.00 each; series, \$20.

This series explains the basic principles upon which our government is founded. In the first filmstrip, *The Declaration of Independence*, the historical background of the document assists students to understand the development of the rights stated. Each filmstrip is divided into parts, followed by several frames covering objectives and questions for discussion which should facilitate the use of the visual aid. Useful in the upper grades, high school, and adult groups. H. H. F.

Your Future in the Skilled Trades. 35 mm. Five filmstrips: *Woodworking Trades*, 60 frames; *Building Trades*, 64 frames; *Basic Electrical Trades*, 49 frames; *Radio, Television, and Electrical Appliance Repairman*, 41 frames; *Printing Trades*, 54 frames. Black and white, \$3.25 each; series, \$15.

This series of filmstrips is of possible value to pupils in shop courses or as general guidance information. The various frames in the series are well

selected and each follows a pattern relative to the specific trade area covered. Information is provided concerning the extent of opportunities, education required, wages, possibilities for advancement, expected duties, and working conditions. Materials such as charts and graphs are presented in a way which allows the individual teacher or counselor to elaborate upon the different aspects of each trade or occupational area. Usable at the senior high school or college level. P. H.

Using and Understanding Numbers. Six filmstrips: A 537-6, *Using and Understanding Numbers*, 11-15; A 537-7, *Using and Understanding Numbers*, 16-20; A 537-8, *Using and Understanding Numbers*, by 1's, 2's, 5's, 10's; A 537-9, *Using and Understanding Addition—Objects and Symbols*; A 537-10, *Using and Understanding Subtraction—Objects and Symbols*; A 537-11, *Using and Understanding Simple Measures*. By Joseph J. and Francesca L. Urbancek. Illustrated by Betty Carrol, Carol Coffee, and Joan Jelinek. Color, \$5.50 each; series, \$28.50.

Children as well as teachers who have used the first series by the same authors will welcome these well-planned lessons in understanding numbers, clarified by appealing illustrations in color. This does not mean, however, that the first series is a prerequisite for this one; either one can be used independently of the other. Instead of explicit, confining directions for use, the teacher will find several frames at the beginning of each filmstrip telling what concepts are meant to be developed and suggesting ways of using the material presented. Thus, she is free to use these lessons in terms of the needs of the children in her group. An excellent teaching aid. M. G. H.

Resources and Manufacturing Industries, A 259-9. 60 frames. Color, \$6.00.

The first of a series of four filmstrips, prepared in cooperation with Rand McNally and Company, concerning the southern states of the United States. A rather brief summary is given of manufacturing industries and raw materials as they exist in the South today. Good use is made of location and transportation maps. Forest, agricultural, and mineral resources are summarized and a number of interesting views of key cities are included. Of special interest are the frames devoted to the TVA project in Tennessee. Recommended for upper grade and junior high school students. V. W. B.

The Corn Belt, A 259-13. 50 frames. Color, \$6.00.

One of a series of four filmstrips prepared in cooperation with Rand McNally and Company, concerning the Middle West of the United States. An excellent strip for teaching upper grades and junior high school students the basic principles of our Corn Belt economy. The photography is outstanding and good usage is made of maps, both for locational purposes and for animal populations. Other scenes include types of farm machines used, types of crops raised, and various breeds of livestock tended on the farms. A fine series of thought-provoking questions exists on the concluding frames. Highly recommended. V. W. B.

America, the Beautiful, A 661-6. 32 frames. Color, \$5.00.

The words to *America, the Beautiful* are shown with meaningful photographic background. Each phrase of the song has a different scene. The scenery appropriately fits the words. The filmstrip should help children produce an inspired performance of the song in the classroom or in the assembly hall. S. D. W.

NEWS

EDITED BY GEORGE J. STEINER

CHICAGO TEACHERS COLLEGE

ANTHOLOGIES OF POETRY AND ESSAYS—The National High School Poetry Association, 3210 Selby Avenue, Los Angeles 34, California, has announced plans for publication of the following anthologies for the school year 1954-55:

High School Poetry Anthologies. Manuscripts are accepted from junior and senior high schools in the United States, Alaska, Hawaii, and the Canal Zone. The closing date for the fall 1954 semester for contributions from all junior and senior high schools is December 5; for the spring 1955 semester, March 15 for the denominational and private schools and March 25 for public junior and senior high schools.

Prose (Essay) Anthologies. For students in grades seven to twelve. Essays are limited to 150 words on any subject. Closing date is November 10, 1954.

Eleventh Annual Anthology of College Poetry. Closing date is November 5, 1954.

National Teachers Anthology of Poetry. Closing date is January 1, 1955.

Address inquiries to D. Hartman, editor.

CHICAGO BOARD OF EDUCATION—AMENDED RULES—On March 10, 1954, the Board of Education amended two of its rules. These revisions became effective on September 7, 1954. They are as follows:

Section 6-13 (Duties of Teachers). Teachers shall take charge of the divisions or classes assigned to them by the principal. They shall be held responsible for the instruction, progress and discipline of their classes and shall devote themselves exclusively to their duties during school hours. Teachers shall render such assistance in the educational program in and about the building as the principal may direct, including parent-interviews, pupil counselling, corridor-, lunchroom-, and playground-supervision, and attendance at professional staff meetings.

Section 6-24 (Regular School Hours). Unless the General Superintendent of Schools otherwise orders, the pupils' morning session of the elementary school shall commence at 9 a.m. and close at noon. Their afternoon session shall commence at 1 p.m. and close at 3:15 p.m. A recess of fifteen minutes each forenoon and ten minutes each afternoon shall be given to the pupils of the elementary schools at the hour near the middle of the session.

Unless the General Superintendent of Schools otherwise orders, sessions in all other schools shall be held between 8:45 a.m. and 3:15 p.m. The hours of the members of the educational staff in all schools shall be from 8:30 a.m. to 3:15 p.m.

CHICAGO BOARD OF EXAMINERS—Announcements concerning candidates for regular certificates:

1. Age limit changes for regular certificates. Chapter IV, Section 4-18 (Age limitation—

candidate for regular certificate) has been amended as follows: (*italics indicate new sections*)

No candidate for a regular certificate who has not attained his nineteenth birthday, or who has attained his forty-ninth birthday, shall be admitted to any examination for a regular certificate; provided however, *that a substitute teacher whose services began prior to his forty-ninth birthday, and who has not attained the age of 55, and whose services were satisfactory shall be admitted to examinations at an age beyond his forty-ninth birthday equal to the number of days he served as a substitute teacher; and provided further* that a former regularly assigned teacher whose services were satisfactory shall be admitted to examinations up to the time he attains the age of 55 years; and provided further that the age limitations shall not apply to any candidate who at the time of the examination is a regularly assigned teacher in the Chicago Public Schools.

No person shall be appointed for service during the required trial period of service in the Chicago Teachers College, *the Junior College*, the trade or vocational schools, *or as a high school teacher of Public School Health* who will have attained his forty-ninth birthday at or prior to the date on which he will be eligible for the required examination for a regular certificate to teach in any school unless such candidate shall be a regularly assigned teacher in the Chicago Public Schools who was transferred under his regular certificate for the trial period.

2. Monday, December 27, 1954, is the date set for high school certificate examinations in the following subject-areas: English, foundry, general science, home economics, instrumental music, mathematics, physics, Polish, and Spanish. The deadline for filing applications is December 10, 1954. These are regular certificate examinations open to all candidates who meet the requirements for admission as specified in the Board of Examiners' *Circular of Information*.

CHICAGO HISTORICAL SOCIETY—Week Day Assemblies, a series of one-hour illustrated lectures to which teachers may take their classes, are held at 10:00 a.m. on certain Wednesdays each month during the school year. The schedule for this year is:

American History Series:

Discovery and Exploration	October 6 and 13
Life in Colonial America	November 10 and 17
The Struggle for Independence	December 8
Building a New Nation	January 12
Lincoln in Illinois	February 2, 9, and 16
George Washington	February 23
O Pioneers!	March 9 and 16
The Nation Expands	April 13 and 20
Americans All	May 11 and 18

Chicago History Series:

Early Chicago	October 20 and 27
The Great Chicago Fire	November 3
Chicago Destiny	December 1

Reservations should be made in advance; call Education Department, MICHIGAN 2-4600.

To enhance the value of the programs, a Chicago Scrapbook will be given to each pupil attending the morning sessions in October. An attendance award will be given to both a public school and a parochial or private school having the highest morning attendance for the year—October through May.

Each winning school will receive a handsome pair of framed prints of old Chicago street scenes—modern reproductions, in color, of the famous Jevne and Almini views of Chicago before the fire of 1871.

The special awards program will be held June 4, 1955.

The schedule for Saturday mornings is:

Indians and Pioneers	October 2, 9, 16, and 23
The Fort Dearborn Massacre	November 6, 13, and 20
From Fort to Fire	December 4 and 11
Chicago Giants	January 8 and 15
Lincoln in Illinois	February 5, 12, 19, and 26
The Great Chicago Fire	March 12, 19, and 26
Chicago Rebuilt	April 2 and 16
Our Heritage	May 7, 14, and 21

Once a month, tickets of admission will be sent to the schools for distribution. If additional tickets are desired, call the Education Department, MICHIGAN 2-4600, or inform pupils that they may get tickets at the door.

CHICAGO NATURAL HISTORY MUSEUM—Saturday morning is free movie-time again for children at the Museum. The programs, designed to appeal to the imagination and interest of children, will be presented in the James Simpson Theatre at 10:30 a.m. The November schedule is:

Water Birds	November 6
Hunting the Kodiak Bear	November 13
Angote	November 20
Savage Splendor	November 27

The Saturday afternoon free program for adults, which begins at 2:30 p.m., is:

Tomorrow Never Comes	November 6
American Indian Adventures	November 13
Argentina	November 20
Expedition Ice Cap	November 27

DRIVER EDUCATION—Earl Allgaier, director of the education program for the American Automobile Association, has recently completed a study of driver education covering a span of seventeen years. His conclusions, based on all available information, center on the following points:

1. Driver education in the nation's high schools has saved over 1,400 lives that otherwise would have been lost during the past seventeen years.

2. About 1.5 million persons have completed a high school driver education course, including both classroom instruction and behind-the-wheel practice driving.
3. The total cost to schools has been about 53 million dollars or \$34 per person trained.
4. The economic cost of the accidents which this program has prevented amounts to about 137 million dollars, or a return of \$2.60 in economic savings from prevented accidents for every dollar invested by the schools.
5. Over 50,000 persons have been saved from traffic accident injuries because of driver education programs.

ELEMENTARY SCHOOL PRINCIPALS—Four principals of Chicago Public Schools have been granted leaves from their elementary schools to accept fellowships at Harvard University. The principals are Donald J. Blyth of the Brinnard, Curtis C. Melnick of the McCosh, Lorraine Sullivan of the Bryant, and Herbert M. Zimmerman of the Mark Sheridan.

KOREAN VETERANS—A new law signed by President Eisenhower on August 20 gives Korean veterans three years from the date of their discharge to start their education under the G. I. Bill of Rights. The law previously allowed a veteran two years. Disabled veterans get a four-year extension in their deadline for completing training.

MIRACLE OF BOOKS FAIR—Chicagoland's Second Annual Miracle of Books Fair will be held at the Museum of Science and Industry, East Fifty-seventh Street and South Shore Drive, November 13-21, 1954. Sponsored by the *Chicago Tribune*, the Children's Book Council, and the Museum of Science and Industry, the Fair will coincide with the annual national observance of Book Week.

The basic attraction will be the display of approximately 2,600 of the best and newest books for children. The books will be shown in elaborate and colorful surroundings, on low stalls especially built to permit children to see and handle the books; cover all age groups; and be displayed under various categories. Entertaining programs directed by Martha B. King, will be presented in the 900-seat theatre adjoining the exhibit area. There will also be short dramatic presentations by school children and personal appearances by authors and illustrators of children's books.

Plans for week days, Monday through Friday, include escorted tours for public and private school children in grades four to eight; arrangements may be made through the schools or the Board of Education. Out-of-town groups should make arrangements with Miss Martha McGrew of the Museum. Hours for the Fair are tentatively the same as last year: Monday through Friday, 9:30 a.m. to 4:00 p.m.; Saturdays, 9:30 a.m. to 5:30 p.m.; Sundays, 9:30 a.m. to 7:00 p.m.

The *Chicago Tribune* will publish its annual Books for Children issue on Sunday, November 14, under the direction of Polly Goodwin, in conjunction with the opening of the Miracle of Books. This issue will be distributed at the Fair and through book stores and libraries throughout the Middle West.

NATIONAL COUNCIL OF TEACHERS OF ENGLISH—The 1954 Annual Convention will be held at the Hotel Statler in Detroit, November 25-27. The theme is "Language: Mistress of the Arts." The meeting will hold special interest for journalism instructors who wish to learn the latest trends in student publications. Featured, as usual, will be exhibits and publishers' displays.

PLEDGE OF ALLEGIANCE TO THE FLAG—A change in the pledge of allegiance to the flag is now official; a bill authorizing this change has been signed by President Eisenhower. As revised, the pledge reads: I pledge allegiance to the flag of the United States of America and to the Republic for which it stands, one nation under God, indivisible, with liberty and justice for all.

SCIENCE TALENT SEARCH, 1955—Science Clubs of America sponsored by Science Service, Incorporated, with headquarters at 1719 N. Street, N. W., Washington 6, D. C., recently announced that the Fourteenth Annual Science Talent Search will be conducted in 1955, offering high school seniors the opportunity to win all-expense trips to Washington and compete for Westinghouse Science Scholarships.

Each entrant must plan and carry out an original scientific project and report on it in about a thousand words. In December, 1954, high school senior entrants must take a nation-wide examination testing their ability in science. Information about themselves must be sent in with their examination papers and reports. Forty contestants

will be chosen for trips to the Science Talent Institute at Washington; among them will be the winners of the \$2,800 and \$2,000 Westinghouse Grand Science Scholarships and the eight Westinghouse Scholarships of \$400 each; \$3,000 more will be awarded at the discretion of the judges. In Washington, each of the forty boys and girls will receive the Gold Emblem of the Science Clubs of America. Detailed rules and regulations for the 1955 contest are now available.

Science teachers sponsoring school clubs may send their names and permanent addresses to Science Clubs of America for free affiliation and further communications concerning Science Talent Search.

STATE DEPARTMENT OF PUBLIC INSTRUCTION—In 1947 the state General Assembly enacted a law giving the State Department of Public Instruction responsibility for evaluating and recognizing the elementary schools of Illinois for financial state aid. During the past seven years, members of the staff of the State Superintendent have visited and evaluated the 345 public elementary schools of Chicago. In the over-all summary, the areas of instruction, administration, and curriculum have been commended:

Instruction: The schools are to be commended for their high standards. In general, the Chicago elementary teachers are well prepared, professionally minded, capable, and possessed of good teaching personalities.

Administration: The building principals are well trained and capable. They have a sympathetic understanding of public education and are demonstrating real professional concern for a closer relationship between home, school, and community. District superintendents are highly qualified and are providing effective leadership in their districts.

Curriculum: The educational program for the Chicago elementary schools is considered broad. The program of curriculum development, stressing areas of learning and designed to develop the personal worth of the pupils, is to be highly commended.

Because teachers are more important than buildings or endowments, libraries or laboratories, curriculum or methods, their recruitment, selection, training, and stimulation is the central problem of higher education.

—Dr. O. C. Carmichael

PERIODICLAS

EDITED BY PHILIP LEWIS

CHICAGO TEACHERS COLLEGE

"I Like Teaching, But" By Alice B. Hennings. *The School Executive*, June, 1954.

A teacher dedicated to her job vents her resentment at the popular misconceptions held by laymen concerning this important profession. Driven to take on other employment during the long summer layoffs, the author compares conditions, equipment, and opportunities with those normally encountered in the classroom. The style of writing is amusing and entertaining, but the point is forcefully made that teaching demands much of one's self above and beyond the call of the average nine-to-five job.

"How Gray is Gray? By Mary Hollis Little. *Adult Leadership*, May, 1954.

Adult education is a rapidly expanding activity whose merit is generally recognized. Here, however, an attempt is made to deal with a single segment of this type of instruction—that of the older adult. Some common-sense approaches to this important problem are based upon the premise that oldsters may look different on the outside, but feel inside as they always have. Educators are warned against assuming that old people are like children, that they are dull or uninteresting, that they are all alike, or that they can fit into any mixed group. On the positive side, the unmet needs of oldsters are summed up as the need for companionship and affection, feeling useful, having status, self-orientation, knowledge, and fun and play.

"Education for TV or TV for Education?" By Edward P. McCoy. *Educational Screen*, September, 1954.

This timely treatment of a paradox facing many educators today seeks to determine whether or not the TV tail will wag the dog. Recent experiments in educational video have all too often been modified, curtailed, or distorted to fit in with what is currently considered good programming practice; sacrificed in this way are continuity, sequence, and objectives. It is considered essential that educational television productions do not avoid subject areas because they are not or do not initially appear to be compatible to obvious presentation on this media.

"The Future Supply of Scientists." By Frank Bowles. *The Educational Record*, April, 1954.

The author draws upon the available statistics and projections to conclude that within the next

twenty years there will be a 50 per cent increase in the population age group eligible for advanced scientific training in our institutions of higher learning. This optimistic outlook is further enhanced by the apparent social trends enabling more persons to attend college. On the other hand, a good measure of gloom is introduced into the total picture by the fact that fewer and fewer science teachers will be called upon to teach larger and larger classes in an educational system that may not be able to accommodate itself to the pressures of a larger group of students.

"The Presses Are Waiting for Good School News Stories." By Beatrice M. Gudridge. *N.E.A. Journal*, December, 1953.

Schools are big business with millions of people either directly or indirectly concerned with their activities. For this reason newspapers are willing and eager to pass along to their readers the reports, stories, unusual incidents, and discoveries that take place in these institutions. Often, however, the lines of communication between the educators and the newsmen become snarled or non-existent due to lack of mutual understanding. Frequently the teacher fails to recognize something that is really news since it seems all too familiar and routine. To help alleviate this situation a substantial listing of story possibilities in the areas of curriculum, citizenship, health, and instruction is provided. Establishing proper relations with reporters involves transplanting pedagogy into sensible, straightforward, meaningful statements; being tolerant of deadlines, rejections, and placement of articles; and understanding reasons for delays in publication.

"Mobile Picture: Flannelgraph and Magnetic Blackboard." By John Burton. *Look and Listen*, November, 1953.

Though not as widely used as the flannelboard, the magnetic blackboard possesses unique characteristics warranting investigation and implementation by teachers, supervisors, and public speakers. Simple directions for assembling this latter aid are given in the write-up. Suggestions for employing less conventional materials, such as crepe cloth and sandpaper-roughened paper, in the applications of the flannelgraph extend the versatility of this effective method of representation.

BOOKS

EDITED BY ELLEN M. OLSON

CHICAGO TEACHERS COLLEGE

IMPORTANT NEW BOOKS

Contributors to this section are Fred O. Anderson, Jene Barr, John M. Beck, Alice C. Bigane, George E. Butler, Joseph Chada, Louise Christensen, Mary E. Courtenay, Thomas J. Creswell, Henrietta H. Fernits, J. Curtis Glenn, Emily M. Hilsabeck, Irene Jurkovic, Joseph Kripner, Maurice H. Krout, Marcella G. Krueger, Vinita H. Leonard, Philip Lewis, Melvin M. Lubershane, Ursula Maethner, Charles R. Monroe, Teresa O'Sullivan, Blanche B. Paulson, Charles W. Peterson, Dorothy V. Phipps, Bernice B. Roberts, Margaret Sandine, Johanna Krout Tabin, Robert J. Walker, William A. Watson, and Rosemary Welsch.

FOR TEACHERS AND SUPERVISORS

Major Problems of United States Foreign Policy, 1954. By the Staff of the Brookings Institution. 722 Jackson Place, N.W., Washington 6, D. C.: Brookings Institution, 1954. Pp. 418. Paper-bound, \$2.00; cloth-bound, \$4.00.

This volume is the seventh annual analytical survey published under this title. Its admirable organization, dynamic style, impressive scope, and marked cogency are salient. Here are stimulating and informative expositions of basic patterns, fundamental objectives, conditioning factors, and developing problems of our country in her international relations. Moreover, there is here a highly competent treatment of American interests and concerns in special problems and in particular geographical areas throughout the world. C. W. P.

Judging Student Progress. By R. Murray Thomas. 55 Fifth Avenue, New York 3, New York: Longmans, Green and Company, Inc., 1954. Pp. 414. \$4.50.

In this book, the author draws on experiences from "Central Elementary School" to bring to life planning and evaluation practices carried on by effective teachers. Realistically treated are the use and interpretation of standardized achievement, aptitude, intelligence, and personality tests, and the creation of class tests. The author attempts to show how the instructor can fit into his working day various recorded observations including progress charts, check lists, and rating scales. The text demonstrates well the part of testing and appraisal in educational procedure. The small manual will be helpful to the college instructor who uses the book as a text. J. C. G.

Television Broadcasting. By Howard A. Chinn. 330 West 42nd Street, New York 36, New York: McGraw-Hill Book Company, Inc., 1953. Pp. 690. \$10.

Written primarily for the group interested in the technical aspects of telecasting, this presentation is exhaustive in its coverage and details the factors concerning equipment, facilities, and techniques involved. Line drawings and photographs are in generous supply and do much to reinforce the explanations accompanying them. A fund of experience dealing with the practical problems of setting up studios, control rooms, lighting facilities, recording devices, transmitters, and camera chains will prove invaluable to personnel engaged in such activities. The chapter on color television is concerned with the system utilizing the mechanical scanner. Although this approach has since been superseded by an all-electronic scanner, much of the information is still pertinent and useful. P. L.

Advanced Woodwork and Furniture Making. By John L. Feirer. 237 North Monroe Street, Peoria 3, Illinois: Charles A. Bennett Company, Inc., 1954. Pp. 391. \$3.96.

A fine addition to any school shop or home craft library, this book deals with the proper usage and maintenance of power tools used in good furniture making and advanced projects for the home. Many important hints on gluing properly arranged wood members to prevent warping and amateurish results are amply illustrated. Fine design is stressed throughout the volume with numerous photos from outstanding furniture makers of modern times. Evidence of the author's "know how" is witnessed all through the reading of the well planned and executed shop book. F. O. A.

Teaching Physical Education in Elementary Schools. By Maryhelen Vannier and Mildred Foster. West Washington Square, Philadelphia 5, Pennsylvania: W. B. Saunders Company, 1954. Pp. 351. \$4.25.

A well-organized text for prospective teachers of elementary school physical education, or those in service. The authors have good material to offer in all phases of the elementary school physical education program including the newer elements, camping and outing, and aquatics. An interesting item is the section on creative play in which games originated by children are described. The illustrations are excellent and the teaching theory is based on modern principles of education. L. C.

Developmental Guidance in Secondary School. By Wilson Little and A. L. Chapman. 330 West 42nd Street, New York 36, New York: McGraw-Hill Book Company, Inc., 1953. Pp. 324. \$4.50.

Attacking the question of guidance in the high school from the problem angle, this book suggests numerous approaches to a discussion with youth of their problems. With a minimum of attention to the structure of a service or to "who-does-what," the emphasis is upon the needs to be met. The absence of organizational material will disappoint readers seeking the outline of the woods but it will refresh those who want to enjoy the trees. B. B. P.

Education in a Democracy. By Alonzo F. Myers and Clarence O. Williams. 70 Fifth Avenue, New York 11, New York: Prentice-Hall, Inc., 1954. Pp. 333. \$4.50.

Those who are familiar with the 1948 edition of this book will welcome the pertinent revisions appearing in the new volume. In addition to up-to-date statistical data and current bibliographical sources, the latest edition introduces sections on the educational implications

of our expanding population and the threat of communism. The authors' original thesis remains unchanged. The major emphasis is placed on the role of education in the solution of contemporary social, economic, and political problems in a democracy. This is a stimulating source for the exploration of important issues and trends in the field of American education, especially adapted to serve the purposes of an orientation course for prospective teachers. J. M. B.

Educating the Sub-Normal Child. By Frances Lloyd. 15 East 40th Street, New York 16, New York: The Philosophical Library, 1953. Pp. 144. \$3.75.

After working for a number of years with mentally handicapped children, this author finds great satisfaction in setting down her educational philosophy. She uses many expressions which are not familiar to Americans, but they add color to the interesting portrayal of the function and curriculum of the primary or Junior E. S. N. School in Great Britain. J. C. G.

Citizen Co-operation for Better Public Schools. The Fifty-third Yearbook of the National Society for the Study of Education, Part I. Edited by Nelson B. Henry. 5750 Ellis Avenue, Chicago 37, Illinois: The University of Chicago Press, 1954. Pp. 304. \$4.00.

For some years educational philosophy has recognized the benefits to be derived from lay participation in public school affairs. Actual implementation of this accepted premise has been more difficult, however. The NSSE has undertaken in this study to present a developmental background including the major issues and problems involved in such cooperation. Case studies in point on the classroom, school, system, state, and regional levels illustrate successful trials involving different approaches. Planning procedures and suggestions for evaluative programs give further direction to this useful work. P. L.

Guidance Services. By J. Anthony Humphreys and Arthur E. Traxler. 57 West Grand Avenue, Chicago 10, Illinois: Science Research Associates, Inc., 1954. Pp. 432. \$4.75.

There is a profusion of treatises on guidance in our country today; most of them tell the same story. Here at last is a different book. Written by two outstanding authorities, it makes its appeal to those who must do guidance but do not make guidance their vocation. Guidance is conceived in a broad way as the responsibility and privilege of every teacher. For the benefit of teacher-readers the authors state, in language that is delightfully non-technical and clear, the aims of interviewing and counseling, the approach to students' problems that is most beneficial, and the ways in which students can be helped to "make wise choices." This book is a model of its kind, and should find its way to every teacher's desk. M. H. K.

Education of the Slow-Learning Child. By Christine P. Ingram. 15 East 26th Street, New York 10, New York: The Ronald Press Company, 1953. Pp. 349. \$5.00.

In this volume Dr. Ingram has collected comprehensive data which can be used to provide a practical educational program for slow-learning children from five to eighteen years of age. She defines the place of the mentally retarded in the community and points out overall attainments of which these children are capable. Several chapters serve as an elaborate guide for choosing, planning, and carrying out realistic units of work. The reference material listed for curriculum building is elaborate for a book of this type; the volume seems to bear out the publisher's claim that the book should meet the needs of psychologists, curriculum consultants, school administrators, and special-class teachers. J. C. G.

Comparative Education. Edited by Arthur Henry Moehlman and Joseph S. Roucek. 31 West 54th Street, New York 19, New York: The Dryden Press, Inc., 1953. Pp. 620. \$4.90.

In the reviewer's judgment, this readable source is the best available in the field of comparative education. Systems of education in seventeen nations and regions throughout the world are analyzed in terms of their cultural backgrounds. The editors propose the thesis that international understanding and world peace can be realized through universal education. Students will find this scholarly volume most suitable as an overview of global education. In one respect, students in education will find this book incomplete. No attempt has been made to compare the progress of scientific education, especially the relative development of psychological principles underlying the learning process. J. M. B.

The Jealous Child. By Edward Podolsky. 15 East 40th Street, New York 16, New York: Philosophical Library, 1954. Pp. 142. \$3.75.

The author examines briefly twenty-four common sources of deep jealousy in children. He includes topics often overlooked in books on child behavior. Among these are the impact of parental occupations on the child's emotions and the minority group child. Some of the chapters contain valuable hints on how to interpret the child's behavior and how to help a child that is burdened with feelings of jealousy. The language is clear and simple, making the book quite accessible to the average parent. J. K. T.

Film and the Director. By Don Livingston. 60 Fifth Avenue, New York 11, New York: The Macmillan Company, 1953. Pp. 202. \$4.50.

This book deals solely with the problems of the director in connection with motion picture film production, and provides the lay moviegoer as well as the professional in the field with a fine understanding of basic techniques and problems involved in turning out a film product. Through reading this book the layman will become a better critic of motion pictures and more familiar with the career implications of this industry. Much of the general content is of broad interest to persons contemplating local amateur motion picture productions. P. L.

Recreation Leadership. By H. Dan Corbin. 70 Fifth Avenue, New York 11, New York: Prentice-Hall, Inc., 1953. Pp. 436. \$5.00.

A rather practical and comprehensive text covering in a single work all of the essential aspects of recreation leadership. The twenty-six chapters include a brief history of the recreation movement, leadership principles, organization and administration, program essentials, planning aids, suggestions and description of activities for various occasions. Part six, Appendices, includes the names and locations of counseling organizations and associations, periodicals and references in the field, index, etcetera. Community leaders, recreation centers, social clubs, parks and playground directors, and teachers of physical education should find many useful suggestions and much information in this volume. J. K.

Radio and Television Communication. By Charles Frederick Lindsley. 330 West 42nd Street, New York 36, New York: McGraw-Hill Book Company, Inc., 1952. Pp. 492. \$5.50.

The author attempts to give broad perspective to the reader of the whole field of radio and television from its inception to the present, and at the same time supply needed information and practical data concerning operating procedures in both of these media. Despite this very ambitious goal for a single volume, surprisingly

good results are achieved. About one-third of the total pages are devoted to historic, economic, and social aspects, a similar portion deals with radio production, while the balance considers television and problems common to both areas of broadcasting. The appendices contain data of much value. The book is planned primarily for college workshop purposes. P. L.

Making and Using Classroom Science Materials in the Elementary School. By Glenn O. Blough and Marjorie H. Campbell. Illustrated by John J. O'Rourke. 31 West 54th Street, New York 19, New York: The Dryden Press, Inc., 1954. Pp. 219. \$2.75.

FOR HIGH SCHOOL AND COLLEGE STUDENTS

Building Health. By Dorothea M. Williams. 333 West Lake Street, Chicago 6, Illinois: J. B. Lippincott Company, 1953. Pp. 431.

A good basic health text appropriate for the junior high school level, well illustrated and interestingly written. The materials encompassed definitely reflect the findings of the Denver study of health interests of children. It is a good resource book, containing many thought provoking questions, direct study aids, and self-testing materials. This is a book well worth having on the library shelf. U. M.

A Visual History of the United States. By Harold U. Faulkner. Illustrated by Graphics Institute. 381 Fourth Avenue, New York 16, New York: Henry Schuman, Inc., 1953. Pp. 192. \$5.00.

This book proves the statement that one picture is worth twenty pages of print. A page of print and a page of beautifully prepared chart or graph, the equivalent of a brief chapter, tell the story of American history since 1492 in 76 different episodes or topics. Coverage is broad, and the facts are accurate. However, this is no book for the immature reader. Although the reading material is brief and interesting, the concepts used require some background understanding of American history. The book was originally designed for World War II army education classes. It would be best used in adult education classes or by students or teachers reviewing for an examination. Upper elementary and high school history students should find this visual history stimulating supplementary material. C. R. M.

Desperate Voyage. By R. L. Armstrong, Jr. Illustrated by Albert Orbaan. 300 Fourth Avenue, New York 10, New York: E. P. Dutton and Company, Inc., 1953. Pp. 184. \$2.50.

A quite improbable and poorly motivated adventure story. Tom Carter, sixteen, forgets to watch the boom on a catboat he is sailing off the New England coast and it capsizes. Picked up by two desperate characters in a yawl, he endures overwork, storm, confinement, beatings, torture, and many other untold hardships. Finally he returns safely home, neither sadder nor wiser. He has learned to keep his eye on catboat booms. There are many much better books of this type available for teenagers. T. J. C.

Three's A Crowd. By Marie McSwigan. 300 Fourth Avenue, New York 10, New York: E. P. Dutton and Company, Inc., 1953. Pp. 192. \$2.50.

This is a study of the emotions of identical twin college girls during their inevitable separation through the courtship and marriage of one of them. Joby is the dominant twin, the more vivid and popular character, and the one in whom Zip Harmon is interested at first. In an effort to play "hard to get" Joby dates another boy and suggests she bring her twin, Janet, for Zip. He

An excellent book to help teachers carry out an activity program in science. The purpose of the activities and the ways in which they may fit into the program are suggested. Clear directions for the simple experiments and projects covering the areas commonly comprising elementary science are accompanied by tables supplying data necessary to their completion. The black and white photographs and line drawings should be a great aid to the teacher when helping her pupils carry out the directions. The book is to be highly recommended not only to the special teacher of elementary science but also to the teacher of the regular classroom. D. V. P.

agrees and falls in love with Janet, much to Joby's dismay. Her final acceptance of the loss of not only the man she loves but also of her twin sister is difficult to achieve, but she eventually brings herself wholeheartedly to wish for her sister's happiness. The book is light, the sentences and paragraphs monotonously short, and the vocabulary simple, with many of the idioms peculiar to high school rather than college students. It is suitable for girls in English R classes or poor readers among Freshman girls. B. B. R.

Home Is Where the Heart Is. By Mildred Mastin Pace. 330 West 42nd Street, New York 36, New York: Whittlesey House, McGraw-Hill Book Company, Inc., 1954. Pp. 191. \$2.50.

This is an excellent picture of life in the mountains of Kentucky and of the friction and lack of understanding between the mountain men and the "outlanders" of the cities in the lowlands. The language, customs, and manner of life of the mountain people are well portrayed. There is romance, excitement, suspense, and the solution of a murder mystery. The breakdown of the isolation of the mountain people is suggested. The book should be enjoyed by first- and second-year high school students. B. B. R.

A Day on the Copydesk. By Emil L. Telfel and Charles G. Pearson. 232 Madison Avenue, New York 16, New York: Rinehart and Company, Inc., 1952. Pp. 217. \$4.00.

A Day on the Copydesk is designed to present copy-reading, laboratory material to the journalism student. It is intended to be used as a manual for a two-semester journalism course. Each set of exercises is preceded by an explanation of the functions of newspaper make-up and the various duties of a copyreader. This manual is constructed in such a manner that the material is graded from simple copyreading to the more complex task of editing and inserting headlines and sub-headlines. I. J.

Step to the Music. By Phyllis A. Whitney. 210 Madison Avenue, New York 16, New York: Thomas Y. Crowell Company, 1953. Pp. 256. \$2.75.

The setting is Staten Island; the era, that of the Civil War. Although historical aspects of the novel are interestingly presented, the author merits commendation for the impartial and sympathetic manner in which she has presented the loyalties and conflicts undergone by northern-born Abbie Garrett, her family, and her friends; and the equally poignant suffering experienced by her southern cousin, Lorena Emory and those she loved. Although the novel is for young people, adults will also profit by reading it. E. M. H.

Muskets Along the Chickahominy. By Gertrude E. Finney. Illustrated by Arthur Harper. 55 Fifth Avenue, New York 3, New York: Longmans, Green and Company, 1953. Pp. 242. \$3.00.

A vivid picture of life in colonial Virginia and the struggles of the colonists to preserve their liberties and save their lands from the greed of the English governor, Berkeley. Their efforts finally culminate in Bacon's rebellion, giving a new interpretation of the insurrection and a new understanding and knowledge of Bacon. This book is the result of careful research and gives the impression of historical truth and accuracy. The incidents are well selected and realistically portrayed; the characters well drawn; and the story excellently told. It should be a fascinating reading for the high school student and a delightful introduction to the longer historical novel. B. B. R.

Let's Go Home. By Virginia Greene Millikin. Illustrated by Sylvia Saks. 419 Fourth Street, New York 16, New York: Lothrop, Lee and Shepard Company, Inc., 1953. Pp. 220. \$2.50.

Although some facets of this novel seem rather "made-to-order," the account of Betty Crenford's efforts to make a home for her ten-year-old step-brother, David, and four-year-old half-sister, Midge, is not improbable; and her struggle to keep Aunt Zippy from separating the three of them is also credible. Likewise of interest is Betty's friendship with Lawrence (Zeke) Howard, also the victim of a broken home. For ages fourteen to sixteen. E. M. H.

Radio English. By Florence Felten French, William B. Levenson, and Vera Cober Rockwell. 330 West 42nd Street, New York 36, New York: McGraw-Hill Book Company, Inc., 1953. Pp. 359. \$3.60.

A stimulating guide to grammar for the high school student who wants to enjoy his personal improvement in language usage and speech while learning to think independently and creatively. Fulfilling the preface, experienced authors enthusiastically treat radio as still booming, and use it as a technique to motivate better everyday writing and speaking. Continuity, news, talks, and dramatic programs are neatly packaged in a practical plan of progressive difficulty. Beamed at English classes that teach speech, speech classes that teach radio, radio workshops, and extra- or semi-curricular activities for the individual or group. The inaccurate title and the slightly outdated photos might rouse risibilities. R. J. W.

Modern Chemistry. By Charles E. Dull, William O. Brooks, and H. Clark Metcalfe. 257 Fourth Avenue, New York 10, New York: Henry Holt and Company, 1954. Pp. 561. \$3.88.

Several points are noteworthy in appraising this textbook. First, it is not just a copy of the older edition in a new cover. Many of the units have been rewritten in the light of more recent knowledge, most notably the section on the Theory of Ionization; new sections have been added; other sections have been split into more cohesive units and yet the book has been shortened from over 600 to 536 pages. The cover deserves special mention; it is attractive and appropriate but adds, no doubt, a considerable increment to the cost. W. A. W.

Society in Action: A Study of Basic Social Processes. By Joyce O. Hertzler. 31 West 54th Street, New York 19, New York: The Dryden Press, 1954. Pp. 452. \$5.25.

Professional sociologists will appreciate this distinctly new approach to a study of sociology. The author attempts to meet the challenge of critics who charge that sociology is a mass of disjointed hypotheses and facts, and not a systematized body of knowledge and principles

as a science ought to be. This text can best be described as one on the anatomy of society in which the structural parts are identified, defined, and classified, after which the dynamic processes or "laws" by which the social organism operates as a totality are analyzed and stated. The author has made an admirable analysis of a vast quantity of sociological literature from which the essential processes have been extracted. However, most undergraduate students who may use this text are going to experience some real difficulty. First, the author's sophisticated, almost "jargonese" style of language is anything but simple to understand. A more serious defect is almost complete absence of any illustrative material. Although the author feels that this is not a serious handicap for students beyond the freshman level, he misjudges the maturity of undergraduate students. The text reads more like one in mathematics or physics, or even a dictionary, than the conventional sociological book which is filled with descriptive, human-interest, problem-type materials. An excellent forty-nine page bibliography of current references, arranged by chapters, if read by the students, could furnish the "meat" for the "dry bones" of the text. Excellent for the scholar, but of doubtful teaching value for the average college student. C. R. M.

The World's History. By Frederic C. Lane, Eric F. Goldman, and Erling M. Hunt. Illustrated by Robert Velde and Harold K. Faye. 383 Madison Avenue, New York 17, New York: Harcourt, Brace and Company, 1954. Pp. 733. \$4.48.

This is one of those high school texts which leaves very little of anything else for the teacher of the course in general history to desire. Its language is simple and direct. It tells the story of the nations from the primitive to the atomic age logically and clearly and through a developmental process. Practically no aid, which might help make the student's study of the fascinating field of world history absorbing, is omitted. The book has many chronological charts, maps, thumb-nail sketches of important personalities, illustrative pictures, and drawings, each of which has a message and a purpose. The new edition of *World's History* is a credit to the publisher. J. C.

Government by the People: The Dynamics of American National Government. Second Edition. By James MacGregor Burns and Jack Walter Peltason. 70 Fifth Avenue, New York 11, New York: Prentice-Hall, Inc., 1954. Pp. 872. \$6.50.

This is the most useful college text now available for the introductory American Government course. It has sufficient illustrative detail, but not so much as to make the text either too long or inadequate in scope of topics covered. Students will especially enjoy the lively and interesting style. Highly commendable are the large number of graphs and cartoons. An excellent thirty-three page annotated bibliography and index are included. The best feature is the distinctively realistic, functional analysis of political processes. A visit to the local precinct captain or legislator could hardly give the student a more intimate insight into the realities of politics. Relatively more space is given to the role of government in the regulation of our economic life than is usually found in government texts. Other authors might well use this book as a model for style, scholarship, and student appeal. C. R. M.

Your Marriage and Family Living. By Paul H. Landis. 330 West 42nd Street, New York 36, New York: McGraw-Hill Book Company, Inc., 1954. Pp. 381. \$3.20.

Four stages in life, directly related to marriage and family living, are analyzed in this book: the dating and courtship period, the marriage period, the period con-

cerned with the care and personality development of children, and finally the period when family patterns change through death and through the marriage of children. Consideration is given to the adjustments required in each stage in order to develop success in marriage and to build wholesome family relationships. Challenging problems are presented, pointing out the need for

careful analysis of situations that arise in all periods of family life. The problems are all approached in an objective way, based on research and studies rather than on subjective opinion. Because of this, the book is highly acceptable for all young people regardless of their individual philosophies of family life. T. O'S.

FOR YOUNGER CHILDREN

Five Little Monkeys. Written and illustrated by Juliet Kepes. 2 Park Street, Boston 7, Massachusetts; Houghton Mifflin Company, 1952. Pp. 33. \$2.50.

This is a colorful picture book primary children will love. The story concerns five monkeys who were a nuisance to all the jungle animals except Terrible the Tiger, whom everyone feared. Children will be tense to discover how the monkeys are punished and the humorous climax of the story. Middle grade children will also enjoy this story. A. C. B.

Rain in the Winds: A Story of India. Written and illustrated by Claire and George Loudon. 597 Fifth Avenue, New York 17, New York: Charles Scribner's Sons, 1953. Unp. \$2.50.

Present day India becomes more than just a name in this charming story of Arun and his friend Moti, the largest elephant in the village. When Arun travels in search of Moti, from whom he has been separated during the dry season, he sees and learns a great deal about the changes India is facing. Middle graders will learn much about this faraway country, its people, their customs, and way of life. Each sentence starts on a new line, thus making easy reading. Beautiful wash drawings, fine format, and glossary make this book a desired addition to any library. J. B.

Brightly of the Grand Canyon. By Marguerite Henry. Illustrated by Wesley Dennis. P. O. Box 7600, Chicago 80, Illinois: Rand McNally and Company, 1953. Pp. 222. \$2.95.

With the aid of the bold, beautiful illustrations of Wesley Dennis, Marguerite Henry has created a worthy addition to her series of horse heroes. The story of the sturdy little burro, built around real characters and true incidents, is full of action and excitement, danger and courage, treachery and loyalty in man and beast. In it boys and girls will meet Theodore Roosevelt and his son Quentin and will read the former president's impression of the vastness and majesty of the Canyon written by the light of the campfire. M. E. C.

Golden Letter to Siam. By Jean Bothwell and Phyllis Ayer Sowers. Illustrated by Margaret Ayer. 381 Fourth Avenue, New York 16, New York: Abelard Press, Inc., 1953. Pp. 209. \$2.50.

This adventure story, tinged with mystery, will appeal to the upper grade reader who enjoys intrigue in strange and exotic lands. The letter referred to in the title was engraved on gold and sent to the King of Siam by Louis XIV of France. The young French hero, Pierre Laverne, accompanied the party sent to deliver the king's message. There is fast action, suspense, and a mystery to hold the interest of the readers, despite the many foreign names of places, objects, and people. V. H. L.

Rock River Ranger. By Ben T. Young. Illustrated by Nils Hogner. 381 Fourth Avenue, New York 16, New York: Abelard Press, Inc., 1953. Pp. 157. \$2.50.

A fictionalized version of pioneer days in northern Illinois at the time of the Black Hawk War. Young Joel McCord, finding himself the head of the family after his father's death, sets out for Rock Island with

his mother and younger sister to find work as a gunsmith. The story concerns Joel's work in the pioneer town, his adventures during the war with the Indians, and his contacts with historical figures such as Abraham Lincoln, General Winfield Scott, Jefferson Davis, and Zachary Taylor. A reasonably good regional history for the upper grades. G. E. B.

The Beatinest Boy. By Jesse Stuart. Illustrated by Robert Henneberger. 330 West 42nd Street, New York 36, New York: Whittlesey House, 1953. Pp. 110. \$2.25.

A poignant story of the relationship of a young orphaned boy with his grandmother. David and Grandma Beverly have a very great love and a mutual admiration for each other. Their enjoyment of the simple, everyday pleasures of the mountain country form the framework for a realistic and very human story. The character of David is exceptionally well drawn by the author, and he becomes alive and believable because of the influences of environment and circumstance. The reader feels intensely the meaning of devotion and loyalty, and the beauty of love and charity in the undisturbed atmosphere of the simple life. For the middle grades. G. E. B.

Peter Pocket and His Pickle Pup. By May Justus. Illustrated by Jean Tamburine. 383 Madison Avenue, New York 17, New York: Henry Holt and Company, 1953. Pp. 141. \$2.50.

Appealing story of a young boy's everyday life in a small American mountain village. Simple narrative reflects a sincere, wholesome understanding of a typical folk community, where children and adults share a common bond of belongingness. R. W.

We Are a Family. Written and illustrated by Inez Hogan. 300 Fourth Avenue, New York 10, New York: E. P. Dutton and Company, Inc., 1952. Pp. 93. \$2.75.

These fine stories of animal life give an emphasis on family security. The eagle, beaver, monkey, polar bear, and mouse are the animals attributed with human qualities. Some of the text is in rhyme; some is not. The pencil drawings are good. Primary children will enjoy the simple text. A. C. B.

Danger Fighters — Men and Ships of the U. S. Coast Guard; Ships of Our Navy; Air Drop — Men, Weapons, and Cargo by Parachute; and Submarine, Men and Ships of the U. S. Submarine Fleet. By C. B. Colby. 210 Madison Avenue, New York 16, New York: Coward-McCann, Inc., 1953. Pp. 48 each. \$1.00 each.

Another fine set of four correlated picture books introducing our up-to-date facets of defense. Here are inexpensive books, rich in illustrations, which cover this important topic, either for school information or fulfillment of the child's interest. The reading is intermediate grade level. M. M. L.

Sierra Quest. By Earl S. Coleman. Illustrated by L. D. Cram. 55 Fifth Avenue, New York 3, New York: Longmans, Green and Company, 1953. Pp. 200. \$2.75.

Mountain-bred Mace Donnegan and flatlander Wint Philip set out to search for Dr. Martin and his plane, lost in the High Sierra country. Wint's flatlander ways add to the obstacles which the boys encounter but his

stamina and courage are praiseworthy, especially as they help him to surmount Mace's often unwarranted contempt. Although the theme is somewhat trite, there is interesting description of Sierra country and the suspense of the search is maintained throughout. For ages ten to fourteen. E. M. H.

The First Book of Japan. By Helen Mears. Illustrated by Kathleen Elgin. 699 Madison Avenue, New York 21, New York: Franklin Watts, Inc., 1953. Pp. 68. \$1.75.

Beginning with the tea-drinking ceremony in the Matsumoto home, the middle grade reader learns about the background history of Japan as well as its present day customs, ceremonials, and festivals. Told in a simple, easy-to-read manner, authentic information points out similarities as well as differences thus helping to promote a better understanding of the Japanese people. There are attractive end-papers and good action drawings that blend well with the text and index. Can be used as a supplement in the social studies. J. B.

Kristie Goes to the Fair. Written and illustrated by Emma L. Brock. 501 Madison Avenue, New York 22, New York: Alfred A. Knopf, Inc., 1953. Pp. 85. \$2.50.

Rosalie, the little black and white pig, prized possession of Elmer and Einer, represented the boys' high hopes of winning a blue ribbon and making a good sale at the Dakota County Fair. Fattened, scrubbed, and polished, drawn by good old Kristie in the newly painted farm cart, Rosalie was destined for distinction. How the greedy little pig and the faithful old horse ran away and almost wrecked the boys' well laid plans is the story told by the author-artist in good prose and fine pictures. M. E. C.

It Was All Very Strange. By Charles Williams. Illustrated by Kathleen Elgin. 381 Fourth Avenue, New York 17, New York: Abelard Press, Inc., 1953. Pp. 159. \$2.50.

A collection of "stranger than fiction" short stories told by an elderly uncle to his niece and nephew. Each tale has particular significance to a special situation or occasion. The book provides an adequate stimulus for awakening the far-reaching imaginative spirit of an intermediate grade child. R. W.

The Reluctant Dragon. By Kenneth Grahame. Illustrated by Ernest H. Shepard. 8 West 13th Street, New York 11, New York: Holiday House, 1953. Unp. \$2.00.

The rare charm of Kenneth Grahame's delightful fantasy of the contented dragon who preferred the comfort and security of his cave to the traditional combat with flaming nostrils and lashing tail will appeal to children and adults who themselves have the gift of whimsy. The average young reader will enjoy its subtle humor and its delicate satire only through the presentation of a skilled teacher with the gift of imagination. M. E. C.

A World Full of Homes. By William A. Burns. Illustrated by Paula Hutchison. 330 West 42nd Street, New York 36, New York: Whittlesey House, 1953. Pp. 121. \$2.50.

Here is a much needed volume for the middle grades on housing in various parts of the world. An ample number of authentic black and white illustrations by Paula Hutchison adds to the value of this interesting and well-written book. H. H. F.

A Picture History of France. Written and illustrated by Clarke Hutton. 699 Madison Avenue, New York 21, New York: Franklin Watts, Inc., 1952. Pp. 62. \$3.00.

A kaleidoscopic, lavishly illustrated overview of French history which includes cultural high spots along

with military and political events. It would be useful as an upper grade introduction, summary, or review of related significant events of French history, no one of which is treated in any great detail. There is neither index nor table of contents. M. G. K.

Danny's Luck. By Lavinia R. Davis. Illustrated by Hildegard Woodward. 575 Madison Avenue, New York 22, New York: Doubleday and Company, Inc., 1953. Unp. \$2.50.

In the month of October youngsters will find a special appeal in the story of Danny and the wonderful surprise which his birthday brought to him on Halloween. The gift "began with a B," Aunt Bess had hinted; father had suggested that a seven-year-old must be grown-up enough to care for it. When the great day had brought to Danny a new pal, a friendly little burro called Lucky, his cup of joy was running over. M. E. C.

Chief Joseph of the Nez Percés. By Shannon Garst. Illustrated by Douglas Gorsline. 8 West 40th Street, New York 18, New York: Julian Messner, Inc., 1953. Pp. 177. \$2.75.

The story of Chief Joseph and his people is one of courage unbroken even in the face of utter defeat and despair. Beginning with the life of Joseph as a young boy, the narrative depicts a most realistic picture of Indian life. The author has had the courage to show the brutality and wrongs that were so often perpetrated against the American Indian by the unrelentless flow of white settlers onto the beloved land of their fathers. Biography such as this is writing of the highest order. Combining fact and truth and placing these unobtrusively into a free flowing narrative provides a rich reading experience with adventure and excitement as well as a more serious theme for upper grade readers. G. E. B.

Eddie's Pay Dirt. Written and illustrated by Carolyn Haywood. 425 Fourth Avenue, New York 16, New York: William Morrow and Company, Inc., 1953. Pp. 188. \$2.50.

Another rollicking "Eddie" story to delight the middle-grade reader. Excitement begins the moment Eddie returns from his Uncle's ranch in Texas with an assortment of items including a bucket of "pay dirt" given him by his friend, Manuel. Upon discovering that the bucket contains valuable coins, Eddie decides to return this property to its original owner. Clear, easy-reading print and action-filled black and white drawings carry the mood of the story. J. B.

The Mamba's Precipice. By Roy Campbell. Illustrated by Dolf Rieser. 210 Madison Avenue, New York 16, New York: The John Day Company, Inc., 1954. Pp. 189. \$2.75.

Dr. Jackson's family spend their vacation at the family beach cottage along the coast of South Africa. Here fifteen-year-old Michael and his native friends have many exciting adventures swimming and hunting. The big snake, Mamba, casts a menacing shadow over the holiday activities which, among other events, includes trick motor-cycle riding, aiding ship-wrecked sailors, outwitting a witch-woman, and capturing an escaped criminal. While there is little plot or character development and breath-taking events occur with startling frequency, middle-grade boys will probably thrill to this suspenseful tale, and will certainly learn about the unusual beasts, birds, and marine life to be found in this part of the world. M. S.

INEXPENSIVE PAMPHLET MATERIAL

Board of Education, 228 North LaSalle Street, Chicago 1, Illinois:

The Preschool Curriculum of the Chicago Public Schools. By Paul R. Pierce et al. 1953. Pp. 57.

Techniques of Curriculum Making in the Chicago Public Schools. By Paul R. Pierce. 1951. Pp. 47.

Bureau of Publications, Teachers College, Columbia University, 525 West 120th Street, New York 27, New York:

Education for Self-Understanding. By Arthur T. Jersild, Kenneth Helfant, and Associates. 1953. Pp. 54.

The Workshop Handbook. By Walter A. Anderson et al. 1953. Pp. 65. \$1.00.

Community Action for Education, The Story of the Bronx Park Community of New York City. By John W. Polley et al. 1953. Pp. 102. \$1.75.

Columbia University Press, 2960 Broadway, New York 27, New York:

How the United Nations Met the Challenge of Korea. By the United Nations Department of Public Information. 1953. Pp. 37. 15 cents.

Television and Education in the United States. By Charles A. Siepmann. UNESCO. 1953. Pp. 131. \$1.00.

United Nations Pictorial. By the United Nations Department of Public Information. 1953. Pp. 48. 50 cents.

The Universal Declaration of Human Rights, A Guide for Teachers. UNESCO. 1953. Pp. 87. 50 cents.

Indiana University Bookstore, Bloomington, Indiana.

Bulletins of the School of Education, Indiana University:

An Analysis of the Current Expenditures of Selected Indiana High Schools. By William Monfort Barr. May, 1954. Pp. 30. \$1.00.

An Experimental Analysis of Patterns of Differential Verbal Reinforcement in Classroom Situations. By Edmund V. Mech et al. September, 1953. Pp. 26. \$1.00.

A Guide to the Source Materials Relating to Education in the Laws of the State of Indiana, 1816-1851. Part One: 1816-1838. By Velorus Martz and Stanley E. Ballinger. July, 1953. Pp. 96. \$1.00.

Indiana and Midwest School Building Planning Conference: Proceedings. November, 1953. Pp. 104. \$1.00.

The Local School Facilities Survey. By Harold H. Church et al. January and March, 1953. Pp. 96. \$2.00.

The Organization of the School of Education, Indiana University, for Policy Development. By A. Stafford Clayton. March, 1954. Pp. 43. \$1.00.

The Tenure of Indiana School Administrators. By Raleigh W. Holmstedt. May, 1953. Pp. 36. \$1.00.

Use of Evaluative Criteria in the Indiana Secondary Schools. By Carl G. F. Franzen et al. January, 1954. Pp. 83. \$1.00.

Thesis Abstract Series, No. 5: Studies in Education 1953. 1954. Pp. 258. \$1.00.

Institute of Life Insurance, 488 Madison Avenue, New York 22, New York:

Blueprint for Tomorrow with Teacher's Key and Manual. By the Staff of the Institute of Life Insurance in cooperation with H. G. Enterline et al. 1953. Pp. 23 and 11 respectively. Free to teachers in classroom quantities.

Invitation to Youth—Careers in Life Insurance. 1953. Pp. 32. Single copies free to librarians and educators; classroom quantities available at 15 cents each.

Public Affairs Pamphlets, 2 East 38th Street, New York 16, New York. 1953 and 1954. Pp. 28 each. 25 cents each; quantity rates.

Children in Court. By Helen W. Puner.

Do You Need a Lawyer? By Kathryn Close.

Keeping Our School Free. By H. Gordon Hullfish.

Let's Work Together in Community Service. By Eloise Walton.

The Stranger At Our Gate—America's Immigration Policy. By Hubert H. Humphrey, Jr.

Trade—And Aid. By Beatrice Pitney Lamb.

Washing Our Water: Your Job and Mine. By Helen Beal Woodward.

What Educational TV Offers You. By Jack Mabley.

Your Stake in Social Security. By Arthur J. Altmeyer.

Science Research Associates, Inc., 57 West Grand Avenue, Chicago 10, Illinois:

Junior Life Adjustment Booklets. 1953. Pp. 40 each. 40 cents each; quantity rates.

Citizenship for Boys and Girls. By Stanley E. Dimond. Illustrated by Yoshiko Ozone.

Make Your Pennies Count. By Mildred Hark and Noel McQueen. Illustrated by Jeanne Doern.

Planning Your Job Future. By Emery Stoops and Lucile Rosenheim. Illustrated by Jeanne Doern.

You Can Talk Better. By C. Van Riper. Illustrated by Seymour Fleishman.

Your Problems: How to Handle Them. By Hermann H. Remmers and Robert H. Bauernfeind. Illustrated by Seymour Fleishman.

Life Adjustment Booklets. 1954. Pp. 48 each. 40 cents each; quantity rates.

Study Your Way Through School. By C. d'A. Gerken. Illustrated by Cissie Liebshutz.

What You Should Know About Communism. By Alfred G. Meyer. Illustrated by W. E. Terry.

Superintendent of Documents. U. S. Government Printing Office, Washington 25, D. C.:

Annual Report of the Federal Security Agency 1952. 1953. Pp. 31. 15 cents.

Civil Defense and Atomic Warfare, A Selected Reading List. Prepared by the U. S. Atomic Energy Commission for The Federal Civil Defense Administration. 1953. Pp. 48. 25 cents.

Federal White-Collar Workers, Their Occupations and Salaries, June 1951. By United States Department of Labor and Bureau of Labor Statistics in cooperation with United States Civil Service Commission. Bulletin No. 1117. 1953. Pp. 43. 15 cents.

Good and Bad School Plants in the United States as Revealed by School Facilities Survey. Prepared by James L. Taylor et al. 1954. Pp. 77. 50 cents.

How Children Learn to Write. By Helen K. Mackintosh and Wilhelmina Hill. 1953. Pp. 24. 15 cents.

Occupational Outlook Series. By the United States Department of Labor and the Bureau of Labor Statistics in cooperation with the Veterans Administration.

Employment Outlook for Air Transportation. Bulletin No. 1128. 1953. Pp. 22. 20 cents.

Employment Outlook for Mechanics and Repairmen. Bulletin No. 1129. 1953. Pp. 27. 20 cents.

Employment Outlook for Physicists. Bulletin No. 1144. 1953. Pp. 24. 25 cents.

Employment Outlook for Technicians. Bulletin No. 1131. 1953. Pp. 29. 25 cents.

Employment Outlook in Banking Occupations. Bulletin No. 1156. 1953. Pp. 42. 30 cents.

Employment Outlook in the Automobile Industry. Bulletin No. 1138. 1953. Pp. 33. 25 cents.

Employment Outlook in Metalworking Occupations. Bulletin No. 1130. 1953. Pp. 39. 30 cents.

Employment Outlook in Printing Occupations. Bulletin No. 1126. 1953. Pp. 32. 25 cents.

Occupational Planning and College. By United States Department of Labor in cooperation with United States Department of Health, Education, and Welfare. 1953. Pp. 19. 10 cents.

Statistics of City School Systems, 1949-1950: Staff, Pupils, Finances, and Property. By Lester B. Herlihy under the general direction of Emery M. Foster. 1953. Pp. 85. 30 cents.

The American Heritage in Historical Fiction. By David James Harkness. The University of Tennessee, Knoxville, Tennessee. 1953. Pp. 17.

The Assault on the UN. By Alexander Uhl. Public Affairs Institute, 312 Pennsylvania Avenue, S. E., Washington 3, D. C. 1953. Pp. 36. 25 cents; quantity rates.

The Community College in the United States. By James A. Starrak and Raymond M. Hughes. The Iowa State College Press, Ames, Iowa. 1954. Pp. 112. \$1.50.

Corrective Reading: Grouping. By Emmett Albert Betts, Temple University, Philadelphia, Pennsylvania.

Definitions of Terms in Vocational and Practical Arts Education. Prepared by the Committee on Research and Publications, American Vocational Association, 1010 Vermont Avenue, N. W., Washington 5, D. C. 1954. Pp. 28. 25 cents.

A Guide to the Wild Flowering Plants of the Chicago Region. By Floyd A. Swink. Rockrose Press, Inc., 1225 West Washington Boulevard, Chicago, Illinois. 1953. Pp. 160. \$3.00 plus 12 cents for handling and postage; only \$3.00 if remittance accompanies order.

Henry Ford: Highlights of His Life. Education Department, Henry Ford Museum and Greenfield Village, Dearborn, Michigan. Pp. 20. 10 cents each; quantity rates.

How to Choose that Career: Civilian and Military. By S. Norman Feingold. Illustrated by C. Robert Perrin. Bellman Publishing Company, Cambridge 38, Massachusetts. 1954. Pp. 52. \$1.00; quantity rates.

How to Organize and Run a School Camera Club. Prepared by the editors of *Photography Magazine*, 64 East Lake Street, Chicago, Illinois. Pp. 25.

How to Study in High School, A Manual and Workbook. By Samuel N. LeCount and Lois Lynn Hardy. Pacific Books, Box 558, Palo Alto, California. 1952. Pp. 31. 25 cents.

Inexpensive Books for Boys and Girls. Third Edition. American Library Association, 50 East Huron Street, Chicago 1, Illinois. 1952. Pp. 25. \$1.65.

Interrelationships Among the Language Arts. Prepared by a Committee of the National Conference on Research in English, A. Sterl Artley, Chairman. National Council of Teachers of English, 704 South Sixth Street, Champaign, Illinois. 1954. Pp. 42. 65 cents.

Jets. By Helen Gowan Wood. National Aviation Education Council and Advisory Board, 1115 Seventeenth Street, N. W., Washington 6, D. C. 1953. Pp. 32. 50 cents; quantity rates.

Knowing Your Newspaper. By Geraldine Saltzberg with an introduction by Benjamin Fine. World Book Company, 313 Park Hill, Yonkers-on-Hudson 5, New York, 1953. Pp. 101. 96 cents.

Making Foreign Policy, U. S. A. By Anne Hartwell Johnstone and Georgianna F. Mitchell. Carrie Chapman Catt Memorial Fund, Inc., 461 Fourth Avenue, Room 810, New York 16, New York. 1953. Pp. 43. 25 cents.

Master's Theses in Education 1951-1952. Edited by T. A. Lamke and Herbert M. Silvey. Bureau of Research, Iowa State Teachers College, Cedar Falls, Iowa. 1953. Pp. 155. \$2.00.

Money Management Booklets. Household Finance Corporation, 919 North Michigan Avenue, Chicago 11, Illinois. 1953 and 1954. 10 cents each.

Money Management for Young Moderns. Pp. 20.

Your Budget. Pp. 36.

Your Equipment Dollar. Pp. 36.

Your Health Dollar. Pp. 32.

The Nervous Child, School-Psychopathology and Classroom-Psychotherapy. Child Care Publications, 30 West 58th Street, New York 19, New York. 1954. Pp. 475. \$4.00.

Organizing for Curriculum Improvement. By Ronald C. Doll, A. Harry Passow, and Stephen M. Corey. Bureau of Publications, Teachers College, Columbia University, 525 West 120th Street, New York 27, New York. 1953. Pp. 77. \$1.00.

Plays for Children, A Selected List. Edited by Sara Spencer. Children's Theatre Press, Cloverlot, Anchorage, Kentucky. 1953. Pp. 69. 10 cents.

School Camping, A Frontier of Curriculum Improvement. By John W. Gilliland for the Association for Supervision and Curriculum Development, a Department of the National Education Association, 1201 Sixteenth Street, N. W., Washington 6, D. C. 1954. Pp. 58. 75 cents.

Serving Youth Is Education, The Story of a Six Year Experiment in Humanizing Education. By Harold Saxe Tuttle. Lewis and Clark College, Book Store, Portland 7, Oregon. Pp. 12. 15 cents.

Vocations, reprinted from the 1954 edition of *Compton's Pictured Encyclopedia*. F. E. Compton and Company, 1000 North Dearborn Street, Chicago 10, Illinois. 1954. Pp. 20.

EDUCATIONAL CONFERENCES AND CONVENTIONS

- October 10-15: Fortieth Convention of the Association of School Officials of the United States and Canada, Los Angeles, California.
- October 14-15: Thirty-seventh Annual Meeting, American Council on Education, Chicago, Illinois.
- October 24-30: United Nations Week, NEA Committee on International Relations and American Association for the United States.
- October 27-30: Thirtieth Annual Convention, National Association of Educational Broadcasters, New York, New York.
- November 7-9: Fourth National Conference, Adult Education Association of the United States, Chicago, Illinois.
- November 7-13: American Education Week, sponsored by the NEA, American Legion, Office of Education, National Congress of Parents and Teachers.
- November 10-13: Regional Conference, International Council for Exceptional Children, NEA, Grand Rapids, Michigan.
- November 25-27: Annual Meeting, National Council for the Social Studies, NEA, Indianapolis, Indiana.
- November 25-27: Forty-fourth Annual Convention, National Council of Teachers of English, Detroit, Michigan.
- December 28-30: National Meeting, Speech Association of America, NEA, Chicago, Illinois.

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WITH SUPPLEMENT

